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THE
MEDICAL GUIDE,

FOR
TROPICAL CLIMATES.

PARTICULARLY
THE BRITISH SETTLEMENTS

IN THE
East and West Indies, and the Coast of Africa :

CONTAINING
AMPLE INSTRUCTIONS FOR THE PREVENTION AND CURE OF
THE DISEASES OF THESE CLIMATES, AND ALSO ON
THE VOYAGE OUTWARD AND HOME.

WITH
A COPIOUS TROPICAL DISPENSATORY.

TO WHICH IS ADDED,
*A SYSTEM OF REGULATIONS FOR THE CONDUCT OF EUROPEANS
ABROAD, in respect to Dress, Diet, Exercise, Sleep, &c. Concluding with a View
of the Consequences to their Health on their Return to Europe, after a long Resi-
dence in Tropical Climates, and the Precautions on this Head.---With Remarks on
the Climate and Diseases of different Countries of Europe.*

By RICHARD REECE, M. D.

MEMBER OF THE ROYAL COLLEGE OF SURGEONS, AUTHOR OF THE MEDICAL DICTIONARY,
AND GUIDE, &c. &c.

London :

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PATERNOSTER-ROW.

1814.

BRITISH AND FOREIGN

ALPHABETICALLY

OF THE

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ALPHABETICALLY

J. G. BARNARD,
Alderman-Street, London.

TO DR. WILLIAM DICK,
PRINCIPAL PHYSICIAN TO THE
HONOURABLE EAST INDIA COMPANY,
FOR THE HOME DEPARTMENT,
A GENTLEMAN,
DISTINGUISHED FOR HIS EXTENSIVE KNOWLEDGE,
AND LONG EXPERIENCE IN THE
DISEASES OF TROPICAL CLIMATES,
WHICH HAVE JUSTLY PLACED HIM IN
HIS PRESENT OFFICIAL SITUATION,
THIS WORK,
THE PLAN OF WHICH HAS MET HIS
PARTICULAR APPROBATION AND ATTENTION,
IS RESPECTFULLY
INSCRIBED BY
HIS MOST OBEDIENT
HUMBLE SERVANT,
RICHARD REECE.

BOLTON ROW, PICCADILLY,

January 21, 1814.

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ERRATA.

Page 114. *For* crystals and cream of tartar, *read* crystals or cream of tartar.

Page 126. *For* guiac, *read* guaiac gum.

The article Prepared Kali, p. 125, was inserted by mistake, being noticed under the old name of *Salt of Tartar*, p. 115.

P R E F A C E.

EVERY animal is by nature formed for the particular situation he is destined to occupy ; and his natal residence equally provides for his wants, and allows him the enjoyment of his pleasures. Man differs in this respect from the rest of the creation. So constructed is his frame, that he can adapt himself to a change of circumstances more than any other being, without feeling the same inconvenience and injury from it. His mental faculties enable him to raise up a thousand barriers round him, which to the effects of climate he can oppose. He can equally submit, in a certain degree, to the chilling blasts of the frozen antarctic, or bask in the vertical sun of the tropical regions. But still though this latitude is wisely allowed him, under such extremes his constitution is not equally vigorous as when he is fixed to his original spot.

He becomes, on removal, as it were, an exotic production, that requires to be habituated to the soil, and ere this seasoning arrive, his powers may sink under the hardship of the change. Hence his progeny in that climate degenerates, however pure it may be kept, and shews none of the vigour of the sire.

Since the improvements in navigation, and particularly since the discovery of the new world, which opened a field for enterprise and adventure, the European has become the inhabitant of every clime. In being so, however, his constitution of course suffers:—he becomes more or less the victim of disease; and, for the sake of adventitious advantages, he sacrifices the first of blessings—the enjoyment of that health which he might have continued to possess if he had remained in his native land. But since such emigration is unavoidable, and the European constitution is doomed to encounter all the evils that arise from it, the great point is to guard against them so far as medicine can assist, either in the preservation of health, or the removal of disease. An European placed in this situation, feels the necessity for attention to its precepts. He becomes unavoidably, more or

less, his own physician; and he finds it essential to his comfort to live, if not strictly medically, at least by rule. If the cultivation of domestic medicine has been found of late years even in Europe a necessary study, how much more so ought it to be in those regions where plague and pestilence are wafted in every breeze, and where the change of circumstances already stated renders every European an invalid.

The colonial empire of Britain in the East Indies is now the most extensive that can be conceived; and the preservation of its European population is an object of the first consequence, as on it depends the existence of the government. Such being the case, it is rather surprising that means have not been employed, as in Europe, to enlighten the European society in that empire, by a knowledge of domestic medicine adapted to their particular situation, and to render them acquainted with the most successful measures for the care of their own health, and that of their connections. This defect, I may with confidence say, it will be only necessary to point out to the Directors of the Honourable East India Company to have redressed; and there is

little doubt they will give, on a proper application, their full sanction and authority for this work, intended to be A MEDICAL GUIDE, as well for the direction of the surgeon, as for the use of every individual who is anxious for the care of his health in that climate. The success which has attended the publication of another work under that title, in this country, has induced the author to the present attempt, as the precepts contained in that volume do not apply so particularly to the diseases of tropical climates as to those in Europe; and he does it the more readily, the demand for his work from the East Indies having been extensive, which renders him anxious that a system of medicine should issue from his hands equally useful for the inhabitants of warmer regions, as his former volume has been to the inhabitants of Britain, and he may say with some confidence, of Europe, for it has been translated into several foreign languages, and disseminated over the continent.

The plan pursued in the present work is nearly the same as in the other. A view of the tropical diseases and their treatment are detailed; first, as they attack during the pe-

riod of the voyage to India ; and afterwards, as they are met with on land, in the different presidencies or possessions which form the seat of the European settlers and their residence. The treatment of the diseases is simplified by a copious Dispensatory, connected with a Medicine Chest, the articles of which are so arranged as to render their application easy and familiar, and to answer the purpose of every individual in administering medical aid in his own case.

Under the influence of that excessive heat which pervades the torrid zone, life and animation are in excess, and require the most guarded care in abstracting other active powers, to avoid what is termed inflammation, or that morbid action, either in the whole or in parts of the body, which induce fever and its consequences. This action, where it takes place, is particularly attended with an excess of the hepatic or biliary secretion, increasing and continuing the violence of the morbid state. To avoid this disposition of body, medicine requires here to be constantly employed, and the European is accordingly in the situation of an invalid, who, once the victim of tropical disease, trembles at the past,

and looks forward with anxious fear to guard against future attacks of the same dangerous enemy. This need not excite surprise, when we consider the difference he finds in his situation, compared with the climate of Europe. In India, except during the short period of the shifting of the monsoons, a shower of rain or a breeze of wind is almost unknown: one continued serenity is ever present, without a haze or cloud in the horizon to mitigate the dazzling ardour of a vertical sun; and the thermometer through the whole twenty-four hours seldom or never points under eighty, of Fahrenheit, but generally far above it. In such a country, every thing is different in its productions, habits, and diseases, from those of Europe, and no similarity between them can apply. The necessity, therefore, for a work to point out this in respect to its diseases, cannot be too strongly enforced, and the advantages to be derived from it must be obvious to every person. The evidence indeed of this will be obvious, when we consider the general effects of heat on the human body.

The European no sooner arrives under a vertical sun or in a tropical climate, than he begins to experience the uneasy feelings of an

unaccustomed warmth, which is nearly equal to that of the blood. This state of heat cannot be so decidedly abstracted so rapidly as it accumulates, and when therefore to relieve itself of the great influence of a power which might interrupt the functions of life, open the sluices of the skin, and by a flow of perspiration restores the temperature to its natural standard. Perspiration, therefore, is the cooling process nature employs to relieve the system of superabundant heat. But this process, though intended for a salutary purpose, weakens the constitution, unless kept up by a supply equal to the waste. This supply should be made by simple diluents, not stimulating liquids, that carry the perspirable process too far. The continuance of this effort of nature is necessarily attended soon with relaxation, or diminished strength of the vessels of the skin, and from the consent between the external and internal surface, the state of the stomach comes next to sympathise, feels a loss of tone, marked by want of appetite, and other symptoms of commencing debility. This is perhaps an effort of nature also to prevent repletion, and to lower the full habit of the European in a tropical climate. Against this

state, instead of stimulating it, repose and a temporary cessation of its action, or of the digestive process are the best means. Passing from the surface of the body internally, the first effect of heat that strikes us as influencing the health of the European, is the secretion of the biliary system, and the great increase of the functions of the liver. This increase, however, is only temporary. It then gives place to an opposite state, and variation in this respect constitutes the great source of disease in tropical climates.

The East Indian practice, in many diseases, has, of late years gained much ground in Britain. The *imported bilious* constitution, from so many Asiatics returning home, has introduced a partiality for mercurial remedies, which has induced several physicians to place this subject in a proper and scientific light. On this point Dr. Saunders has taken a lead : his pamphlet is a judicious and well-written essay, fairly stating the opinions on both sides. He has been followed by Dr. Curry, who has, from a particular fondness for a theory of diseases, founded on the morbid state and deranged functions of the liver, too sanguinely considered the use of calomel as an universal

panacea for the human frame. Error, however, always lies in extremes; and the corrected use of mercury, as applied by the experience of Dr. Dick, and some other professional men who have practised long, and with high reputation, in India, is found to be attended in this country with the greatest advantages.

In composing this work, advantage has been taken of the journals of the surgeons, deposited in the India House, which contain valuable information, both in point of cases and remarks. This is drawing intelligence from the most natural and authentic source, and such as cannot fail to merit every regard from those employed in the service, as containing the experience of their predecessors, in the same field they have to traverse themselves. On the whole the present publication is brought forward with the most benevolent view, and it is hoped it will fully answer the important purpose for which it is intended, to endeavour to lessen to the European, the evils of an Asiatic residence, and to permit him to enjoy the comforts, without the alloy, of that situation.

PRELIMINARY DISCOURSE:

CONTAINING

A VIEW OF THE PRINCIPLES OF LIFE, AND A
CONSIDERATION OF THE LEADING PHENO-
MENA OF DISEASE.

As Medicine holds such an essential relation to Chemistry, and every useful art to life is dependent on the latter science, its cultivation cannot be too strongly enforced on every one, as the key of knowledge and information. It is indeed that science which of all others tends to expand the mind. Its subjects are so extensive, as to include the whole of creation, and whatever contributes to the utility or ornament of life, falls within the scope of its investigation. To the contemplative mind, therefore, it affords a field for endless reflexion and various inquiry. It lifts the thoughts to that source from whence all creation springs, and in tracing the infinite changes which it is capable of producing as matter, it naturally leads to an attempt to trace the cause from which such changes are produced, and by which they are modified.—Thus the existence of a superior power becomes warmly impressed upon the individual engaged in such pursuits. Difficulties occur which he cannot explain, and which he can alone retrace to an all-powerful and invisible hand, without

whose interference he is bewildered in conjecture, and led in a maze of difficulty and perplexities. Every combination shews contrivance and design. It is the work of pre-conceived arrangement, and does not take place as the effect of chance, or a blind uncertainty. Thus impressed, creation is viewed by him with an admiration superior to that of a casual observer. He traces in every part the wise and unseen hand of the Creator, enduing every atom with certain qualities peculiar and appropriated to itself, and these qualities capable of being altered, improved, and modified, to the various uses and properties of life. But when he descends into the particular branches into which the industry of man has divided this science, he then finds his source of admiration still more complete. If he investigates the business of the manufacturer, he finds that this science is the very basis of his art. It not only furnishes him with the articles with which he is to work, but it enables him to judge of their purity, to detect their adulteration, and to improve their quality. If again he enter into the province of the Physician, how essential is this science to the principles and security of the healing art. A union of two simple preparations, as for instance, the kali and lime forms the most powerful caustic. Without a knowledge of the effects of combinations, how dangerous a task does the physician undertake, and how apt, in his desire to remove disease, to do more injury to the human frame than disease itself would produce. Without Chemistry his prescriptions may not be merely nugatory, but on the contrary, by improper combinations, be made the instrument of pain, disarrangement, and death. Even the most active medicines may be rendered inert by their union with other substances. This is a subject Chemistry alone can teach and explain. Thus the most powerful mineral poisons, by the addition of those substances termed sulphurets, are

decomposed and rendered harmless in their nature, and vegetable poisons we know are much counteracted in their effects by the power of acids. But the benefit of this science to the physician, is not limited merely to making him acquainted with the powers of the instruments he employs in the cure of disease; it presents to him a subject still more important, the investigation of that structure to which his efforts are directed; and the animal body he finds on serious reflexion and experimental inquiry, subjected to the same influence of chemical laws with the other inanimate parts of creation. The more he contemplates, the more he investigates its economy; the more he finds that the living system, or machine, is a species of elaboratory, in which is constantly going on a variety of processes, some simple, others more complicated, but which all acknowledge the force of chemical attraction, union, and combination. But the view which Chemistry affords of the living and human structure, as well as that of animals, ought not to be confined alone to professional admiration and study. It ought to form a subject for the research of every individual who possesses the powers of thought and reflexion, who considers for what he is made, and the end of his existence and calling. Dust we are, and to dust we shall return, is the language of sacred writ, and this language cannot be understood without a knowledge of Chemistry, shewing the products into which animal matter is reduced, and that earth constitutes the great basis of the whole. In this view then, Medicine, so far as it has yet gone, may be considered as in an incipient state. It is a subject of experiments, and these experiments have as yet gone no way in explaining fully the structure of the machine—the laws of its action, or the cause of the various changes that take place in its economy. Proceeding on the grounds here pointed out, and

considering them the only just and rational ones, for directing to a knowledge of disease, and discovering adequate means of cure, on the true principles of cause and effect, I some years ago published a *Treatise of Physic*, founded upon what I termed the Chemistry of the human body. It is the offspring of long experience, serious reflection, and numerous and repeated experiments in an extensive course of practice.

The leading principle with which I set out, and which I believe will be conceded by every philosopher is, that *heat* is the *great exciting* cause of animal life. This is proved by the analogy of vegetation, as without heat all vegetable creation droops, languishes, and dies. It is by it the seed is reared into the stem, blossoms, and expands its fruit. Nor in animal life is its power less extensive. By heat incubation proceeds, the principle of life existing in the egg is animated, formed into structure, and the animal frame completed in all its functions, so as to leave the shell under its influence in a perfect state. What an incomplete existence does the dormouse, and other cold blood animals present in winter, when the genial influence of summer no longer animates their pores. View also the difference which the natives of the warm and frigid regions present. See the vivacity, life, and gay manners of the former, compared with the cold inanimate apathy of the latter. The former, warm in their passions and affections, feel alive at every pore; the latter are only roused by strong impulses, and betray marks of torpor, insensibility, and the incomplete energies of life. So much indeed is the principle of life connected with the possession of it, that we find nature in cold climates has studiously provided for its preservation, in order that animals may possess a greater degree of caloric than the surrounding bodies. Thus a thick fleece or coat covers them

to prevent its escape to the atmosphere ; and the thickness of this coat is in proportion to the degree of cold the climate possesses in which they are placed. In the same manner when this principle exists towards the equator, in the other extreme the woolly thick covering of the same animals is changed for one of thin hair, to allow on the contrary its escape. The importance then of this principle as identifying itself with life throughout all creation being thus proved, the question that naturally arises is, whence is the source from which in the animal machine it is derived and perpetuated.

The brain we find the principal organ of the body, and in this inquiry we must look to this organ as furnishing the great principle of vitality to the other parts of the machine. This fact is proved by the experiments both on the nerves and arteries. By cutting off the communication of a part with the brain, in consequence of dividing its nerves, the part acquires a coldness and lessened animation, and the destruction of a principal artery is attended with the same effect, which shews the nerve alone is not the sole agent in producing heat. Analogy also confirms this, and demonstrates that heat is the effect of decomposition, and consequently is the result of more than one power. This we see exemplified in fire, where oxygen is necessary to combustion. In explaining then the origin of animal heat, it may be observed that oxygen, the principle of combustion, is supplied from the atmosphere by the lungs during their expansion, and that this oxygen combining with the red particles of the blood, imparts to it its brightness and florid colour. That the blood thus oxygenated or having received the principle of heat is returned to the heart to be conveyed over the body by means of a series of vessels termed arteries. It is in its passage through these vessels it parts with its oxygen, which

is thus distributed every where as they pervade the system, and the fluid deprived of this vital and energetic quality, is returned again to the heart by another series of vessels termed veins, which on restoring it again to the heart, it is immediately transmitted by the latter through the lungs, to have the necessary process of oxygenation renewed. Thus the blood receives an important and essential distinction in these different vessels or canals, displaying in the former a bright florid appearance, the work of animation and vitality, and in the latter a black and dark grumous colour, the effect of being deprived of this vitalising principle.

The presence and necessity of oxygen in the system being thus established, our next inquiries must be directed to the disposal of it. In attending to the action of the brain, it appears an organ of complicated powers, and furnished with a real electric or Galvanic apparatus,* and the subtle fluid it secretes is imported to its branches or

* This subtle fluid may be collected in the animal body by covering the surface with silk. People accustomed to wear silk stockings, particularly gouty subjects, are well aware of this fact; for, on pulling them off in the dark, they may see it escape in sparks. When the skin is dry, so as not to afford a conducting surface, or when the excitability of the brain is increased, it is often discharged from the brain on the approach of sleep, producing a real electrical shock: this effect, termed starting, we often witness in infants during sleep. Another confirmation of this fact may be drawn from the torpedo and cat. It is probably on account of the brain possessing an electrical power that changes of atmosphere disturb the nervous system. Lightning, by over-stimulating the brain, and destroying its electrical power, often produces sudden death. The vitality of vegetables is no doubt equally dependent on electricity; and the reason why they do not flourish in large towns, is, that the electric matter of that part of the earth is exhausted by the number of the inhabitants. A deficiency of electric fluid in different parts of the world, in consequence of a morbid state of the earth, is the cause of some diseases which are attributed to contagion.

conductors, termed nerves. These nerves, or filaments of the brain, are distributed every where through the body, and in a remarkable manner observe the course of the arteries or oxygenated canals. By the union which takes place between the Galvanic fluid, and oxygen of the blood, a species of animal combustion is produced; for the nerves, it is clear, as appendages of the brain, are positively electrified, while in consequence of the oxygen it holds, the arterial blood is negatively so. Betwixt them, therefore, it is highly probable a disengagement of caloric takes place; the Galvanic or electrical fluid and the oxygen, thus coming in contact, a general disengagement of heat occurs, and the principle of vitality is thus conveyed to every part. This abundantly accounts for the different degrees of caloric which exists in different parts, according to the size of the nerves and arteries, or the apparatus to supply it; or according as the apparatus may be interrupted in furnishing its supply by the division or compression of the nerves and arteries. This is strongly proved by what we observe in paralytic limbs, when the circulation is uncommonly languid from the compression on the brain, and the venous blood, contrary to what is usual, displays a very florid appearance from the circumstance of the oxygen not being expended in the process of calorification, or the disengagement and distribution of heat. In examining the blood contained in the vessels of the fœtus, it presents an appearance unusually dark, where it has not breathed or drawn a supply of oxygen from the atmosphere, and though born alive and not separated from the mother, still it seems to want the necessary vitality, and generally goes off in convulsions, if there be any impediment to its receiving from the air, an immediate supply of this essential principle. Thus during the fœtal state, its dependence for heat is certainly on the mother, and it possesses of itself

no powers to continue the necessary calorification or disengagement of heat, which its system requires for the purpose of its existence. In the same manner, the human worm depends for its heat, or vital energy, on the body to which it is attached, being furnished with no lungs to contribute a supply itself; and the moment it is removed from the body it expires, though its existence may be continued some time, if immersed in warm water, to extend its supply of heat.

But independent of the electrical powers of the brain, so essential to the vitality of the system, this complicated organ possesses other peculiar and distinct properties of a still higher and more complex nature. These consist in the sentient and intellectual functions which exclusively belong to this delicate and fine division of structure, and are there seated as in a central point, from which they diverge over the whole. There it is the source of the moving and feeling powers is placed, which all emanate from it, and under the name of nerves are variously distributed and endued with different and distinct offices, all dependent on the powers of feeling.

Thus on the front of the brain arise two large branches directed to each eye, and expanded on these organs for the purpose of vision. In the same manner others are given out for distribution on the ear, and produce the sense of hearing. The nostrils are supplied with branches for smell; and the tongue is equally gifted with the same structure, to excite the sensation of taste. The skin, and extremities of the hands and feet, are indebted for their sense of touch to a similar supply and distribution. Thus every part is animated and improved, and its vitality increased from the same form of organization imparted to it, as a continuation of the primary organ, the brain. It is by this form of animal structure that the sympathy be-

tween the brain, or primary moving organ, and the other parts of the body is preserved. For the internal parts of the system it gives out a special nerve or branch, termed the sympathetic; and the distribution of this nerve as a proof of it may be here explained. This branch, or rather plexus of nerves, gives off first, branches to the neck, and from it the cardiac and pulmonary nerves arise thus supplying the heart and lungs; it next passes through the diaphragm, distributing its filaments in its progress, and gives out branches to the whole abdominal viscera, or organs; thence it is directed to the pelvis and parts of generation. The sympathy existing between the brain and other parts is often peculiar, and varies in its degree being much greater with certain parts than others. Thus a remarkable degree of sympathy exists betwixt it and the stomach, and whatever disturbs the one has an immediate influence on the other. In proof it may be instanced, that compression of the brain from any cause excites nausea and vomiting; and vice versa, a disordered state of stomach generally produces headach of the most distressing kind. Nor does there exist less sympathy between the genital system and the brain. Hence that state of mind produced by diseases of this part which induces hypochondriasis, madness, and often suicide. The sympathy also in the female betwixt the womb and the stomach is no less worthy of notice. During pregnancy, the stomach participates in every sensation of the former organ: hence sickness, nausea, and vomitings are the first marks of this condition; and the stomach continues more or less affected during the whole period of gestation. When disease of any kind exists in the womb, the same sympathetic irritation appears to attend its progress, and often forms a clue to the seat of the disease where it is not clearly perceptible.

Hence it is highly probable, from the existence of this sympathy between the brain and particular organs in such a high degree that the action of the brain is in a great measure kept up by this principle: and we have indeed strong proofs of it when we consider the phenomena which attend the action of particular remedies. Thus a stimulus applied to the stomach revives the energy of the whole system, and pain produced in the most remote parts of the body will keep up its action, so as to suspend the natural operation of sleep. On the same principle, medicines which diminish nervous energy applied to the stomach quiet the whole system, and of course produce sleep, by quieting the action of the brain. It is in this way we may explain the operation of opium, which acting solely on the stomach, diminishes the sympathy between it and the brain. Thus the operation and energy of the brain is kept up, and thus sleep is induced and pain allayed; for it is too ridiculous to suppose, that the medicine is conveyed to the affected part in order to its effect taking place.

But in whatever way the other parts of the system act on the brain, and support its energy, this organ is evidently the extensive seat of all the intellectual operations: and the mind and body we find reciprocally act on each other. Hence this unembodied part, though we are incapable of detecting its anatomical structure, or fixing the particular filaments or minute wrought texture in which it is placed, requires the consideration and research of the physician as much as the visible organization of the brain itself. It is a subject of the highest admiration to find the powers of conception, reflexion, and the effect of the passions, all inflaming the body, and arising as the operation of an unseen principle embodied in matter, and yet so embodied as not to be capable of detection or apparent vi-

sible existence, by the most minute research we can make. The mind, therefore, is only to be traced by its effects, and that these effects may not be carried too far to the injury of the body, or the corporeal part, we find this unembodied principle possessed of a peculiar property, or power, as the guidance of the whole, which, under the name of reason, is placed as a check on our movements and conduct. This is necessary, from the strong influence of the passions in their operation on the system; for anger in excess, may be said to constitute a temporary madness, and is therefore capable of the most dreadful consequences. Fear in the other extreme, without this guardian of our conduct, renders us incapable of acting at all. Grief depresses every bodily exertion and injures the regular operation of the different functions. Nor are even the exhilarating passions less dangerous in excess. Joy suddenly excited by unlooked-for events, has produced strong determination to the head and death; and love, when too unhappy, by absorbing every other feeling, has been attended with the same dreadful effects. Reason then, and its modification by judgment, are placed to rein the passions, and preserve them in due subjection, like the boisterous gales which are apt to upset the bark in its passage through life. By the mind, therefore, the system is most materially affected. By stimulating and rousing the electrical powers of the brain, it naturally produces an increase of heat, while the mild and gratifying passions of hope and confidence acting differently from the others, sooth and guard that inordinate action of the functions of the body, which the others are apt to create. Under disease the state of the passions is a subject of high importance, and requires on the part of the physician as much attention as the treatment of real diseases. Nothing tends so much to aggravate the symptoms of a ma-

lady, or to keep up the morbid irritation of the system, as the influence of the passions, which are unfortunately too little in the power of the healing art. "Who can administer to a mind diseased," is proverbial, and at least shews the difficulty of the subject.

Connected with the operation of the mind is that peculiar faculty we possess, the indulgence of sleep; an indulgence necessary both for the mind and body, forming in the language of the Poet, "Tired Nature's sweet restorer to both." The mind, however, seems to be chiefly benefited by its influence; and it is one of the most remarkable phenomena which belongs to the animal system. Animals require less of this indulgence than man, from their mental exertions not being equal. When this faculty is fully enjoyed, and sleep is termed completely sound, the intellectual functions are entirely suspended. But if the irritability of the brain is increased from any cause, the operation of the mind is kept up in consequence of its connection with this structure, intellectual functions are partially suspended, and dreams or vagaries of the imagination arise, which are only the action of the mental powers without the guidance of reason to direct them. Hence the absurd and ridiculous ideas they present when awake, though wearing the semblance of rationality during the moments of their occurrence. Of these may be mentioned, holding conversation with the dead, and such other strange imaginations, &c. Irritability of the brain then, however produced, and irregular or partially suspended action of the intellectual powers, form the source of spectral delusions, and give rise to supposed apparitions in sleep; and this state is also productive of delirium, of insanity, and of spectral delusions often when awake; the brain suffering at the time from partial irritability or morbid deposition, though the person may not

be sensible that he is then under the influence of disease. Such then is the animating, vitalising, and rational principles of the body, which we have considered at some length; and the animal structure being thus shewn possessed of the great powers of life and action, let us next consider how it is supported in this state, and how and what are its means of nourishment.

The first organic part subservient to this end is the teeth, which prepare the food for digestion, or for being assimilated to the peculiar animal matter which the wants of the system of man require. During the operation of mastication, or the preparation and division of the food, the salivary glands situated in the angle of each jaw, pour out their secretions, and their action is kept up by the motion of the jaw in the process. The food thus divided is then conveyed to the stomach, where it is agitated as in a churn, and mixed with two liquors, the Gastric * juice and Pancreatic fluid, in certain proportions, the former of which possesses such high solvent powers as to dissolve bone, and even copper and silver, according to experiments instituted for the purpose of determining it.

The food, mixed with these liquors, in consequence of its solution forms a slimy mass, termed chyme, and as it passes from the stomach into the intestines, its next receptacle, there is separated from it a fluid of a milky appearance, termed chyle, and nature has studiously provided that this chyle, or nourishing part of the food, should be as completely taken up as possible, and pass into every part of the body. The intestines are accordingly fur-

* The juice termed Gastric, is supposed to be a secretion from the stomach, but I am of opinion, and indeed it is highly probable, that there is no other secretion from the stomach but a slimy matter, to protect its surface, The Gastric juice is more likely the secretion of the pancreas.

nished every where on their surface with a set of vessels termed absorbents, destined for this office, and the length of the intestines of man is no less than nine times the length of his body, that a great and sufficient surface may be exposed for the absorption of the chyle; and this is further increased by numerous folds at different parts of it, which detain also the fluid in its passage for the same wise purpose; thus the intestines, from their situation, their length, their different diameters, thickness, and folds, may be compared not unaptly to the root of a vegetable, which spreads its fibres to a great extent, and in different directions, to draw nourishment from every part of the surrounding soil.

In its passage through the intestines, the prepared food received from the stomach consists of two parts of the chyle already noticed, the only essential division, and of a useless or feculent mass, from which chyle cannot be prepared, constituting what is termed the *fæces*. The nutrient part, or chyle, entering the absorbents, is by them conveyed to the blood through the medium of a particular vessel, in which it is first collected, and then nourishment is distributed by the arterial system to every part of the body for its renovation and support. In order to apply this nourishment, the extremities of the arteries are divided into a set of small canals termed the *secerning vessels*, and though in examining them no difference appears in their shape, form, and size, from each other, yet it is clear they separate from the blood very different matters or combinations. Thus the *secerning vessels* that belong to the bones deposit phosphate of lime; these, connected with glands, supply a peculiar glandular matter those of the cellular membrane deposit fat, and this difference or selection of matter by these vessels can only be ascribed to chemical affinity, by which their action is in-

fluenced and determined; for though all these different matters are secreted from the blood, yet it is surprising that they are not to be discovered in the blood by any experiment or previous chemical investigation, till actually deposited by the vessels in that complete separated state. In the selection of nourishment it may be observed, that animal food, while it increases the muscular strength, is apt to produce an over-fulness of the vessels, and thus occasion heaviness, languor, and lethargy. Vegetable food, on the contrary, though it causes a reduction of strength, tends to calm and quiet the system, and is thus favorable for study and reflexion.

The great purpose of nourishment being to support the body, not to add to its bulk, or to increase it, a supply of nourishment is taken three or four times a day, or in the space of twenty-four hours; in which period a regular process of mutation is constantly going on. As this supply is received and applied by the vessels, so the old parts require to be removed, in order to give place for the new deposition; and in the same manner, as a set of vessels supply, so a set of others are appropriated to receive the old and more useless parts.* This set of vessels is likewise termed absorbents, as they convey it first to the mass of blood, from which it is directed to particular organs, in order to be carried through them to certain outlets, which organs may be termed the purifiers or emunctories of the system. The organs appropriated for this purpose, are found to be the liver, the kidneys, and glands of the intestines. Of these the liver is the principal, and by this large viscus is secreted the bile, which may

* Thus in the language of Scripture we may be said, while in life, to be in the midst of death.

be considered as nearly concentrating the whole feculencies of the blood. It has been asserted, though I conceive on most erroneous grounds, that the bile tends to promote the digestion of our food; but had nature intended such an office for this secretion it would have been emptied into the stomach itself, as the part it was intended to act upon and invigorate, and not into the intestines, where it could not answer this particular purpose. But so far from this being the case, it is found that the presence of bile in the stomach never fails to disturb that organ, and when it enters it by a reversed action of the intestines it is sure to excite nausea, squeamishness, and often violent vomiting.

The bile, therefore, it is clear, by being emptied into the upper part of the intestines, is intended to keep up their peristaltic motion; and hence the office of the liver is an important and necessary one. Thus, whatever stimulates this organ, and occasions its more vigorous and complete action in the separation of the bile, (the feculent part of the blood) proves highly useful in the cure of a variety of diseases, and on this principle may be explained the action of mercury, so much a favourite remedy in supposed affections of this organ.

Next to the liver, as separating useless parts from the body, we noticed the kidneys. By this outlet is carried off all the water, or thinner parts which mixed with the food or drink cannot be appropriated to nourishment, and the quantity of this discharge amounts daily to some pounds. Besides the feculent matter contained in the canal of the intestines from the superfluous parts of the food, there seems to be secreted also from the internal surface of this part a feculent matter, which mixing with the real feces, is discharged in one mass.

The skin is likewise another important outlet for the superfluous matter of the thinner or watery kind, and by this outlet the temperature of the body is in a great degree regulated; indeed the only use of it seems to be to keep up a regular temperature in different parts. It is from the temperature we suffer more than from any chemical combination of the atmosphere, and the vicissitudes of the latter are the great causes of disease. Thus health is greater in proportion in large cities, such as London, from being less exposed to such vicissitudes, or sudden changes, than in the country. Thus when from an increase of heat, the temperature rises above the natural standard when the system is oppressed and fever ensues, the sluices of the skin are opened, a discharge from the surface takes place, and the superabundant heat, or calorific, is removed by the increased evaporation from the surface. On the contrary, where the body is cool, and the heat below the natural standard, the cuticular discharge is suppressed, or very trifling.

Besides these secretions mentioned, there seems a particular organization provided in different parts for the secretion of mucus, to defend tender surfaces, particularly the outlets of particular organs, as the urethra, the nose, &c. from irritation. Under disease, the secretions of these parts from a bland mucus is changed to a thin acrid fluid, thus excoriating the very surface it is meant to preserve.

In all animals, so strong does nature seem to have implanted the principle of vitality, that they appear capable of conveying it to others, and of forming, if they may be so termed, *Animated Excretions*, peculiar to themselves. This is a most remarkable circumstance, but in proof of it we find in the human body a variety of worms generated, peculiar in their structure from any others to be

met with out of the body. It has been indeed conjectured that the eggs of such animals may be taken into the stomach with our food and drink, and afterwards evolved. But this supposition falls to the ground, when these animals are traced in every part, as the brain, the liver, and even the flesh, the seat of the Guinea worm, where no access for the deposition of eggs could take place. It is highly probable, therefore, that equivocal generation prevails, and that they owe their being, life, and motion, to the animal structure, in which they are seated. From these facts we are irresistibly led to draw the humiliating conclusion, that not only are we doomed at last to be the prey of worms, when life, vigour, and animation are no more, but even at the present moment we are exposed to the same dreadful source of mischief; and while we dance the gay round of pleasure, health, and enjoyment, a worm may be secretly gnawing our vitals, and corroding the nice texture of the brain, or be lodged in our very heart's core.

*Derangement of the Animal Economy, forming
Disease.*

Such is the general view of the animating and nutritive powers which serve to give, and to support life and health in the animal frame; but health is not always a regular or continued state, and deviations from it occasionally take place; and these deviations forming disease, may be divided into two classes, the general and local, as they either affect the whole body, or merely impair the powers of a part.

Of the first, or general diseases, the first order is that which arises from increased heat, being an order admitting many subdivisions. from the difference in the exciting cause, and peculiarity in the constitution of the person attacked.

The simplest of these diseases is common inflammatory fever, which is marked by the following phenomena: The blood over-oxygenated by an increase of the electric or Galvanic powers of the brain, general increased heat of the body takes place; the action of the heart being quickened, the blood is propelled through the vessels of the brain with greater force, and thus the disturbed state of this organ is kept up. The skin, from the increased heat, becomes also dry, and the caloric continues to accumulate from the want of a conducting surface. Thus the functions of all the organs are disturbed, and the secretions more or less deranged. The appetite is lost. Nausea and squeamishness of stomach prevail. The urine becomes high coloured, and the secretions from the intestines offensive and irregular. In this morbid state, if one part of the body is more tender than another, unavoidable mischief must arise in that part, and this action of fever, or increased oxygenation of the system, after continuing two or three days not unfrequently, almost generally, shews a morbid determination to the lungs, bowels, or brain, and all the consequences of local inflammation. This accumulation of heat, it is highly probable, has a considerable influence on the state of the fluids. If coagulation is a natural effect of it, when applied to them out of the body, may we not presume that the application of the same power will also affect them in the body, though not perhaps to the same degree. Blood drawn in inflammatory fever has certainly a greater consistence, shews more of the buffy coat, and a greater proportion of red particles, than in health; and there can be little doubt that the lymph, and all the secretions, will partake of a similar disposition.

In this state of body then, how would a chemical physician act, and what treatment would he adopt to restore the condition of health. He would certainly first dimi-

nish the quantity of that matter which supplies oxygen to the system, consisting in the red particles of blood, by exhausting the body of a part of the fluid.* His next object would be to diminish the excitability of the brain, depending on the accumulation and increased action of heat, by cold applied to it through means of a wet napkin, or other apparatus; and having thus lessened the supply of oxygen, and endeavoured to diminish the action of the brain, he would next endeavour to carry off the accumulated heat by producing a conducting surface of the body in consequence of exciting perspiration. But if this be found difficult to be accomplished, he will endeavour to produce the same surface artificially, by means either of the cold or warm bath, the latter of which is preferable on account of being more likely to bring on the natural secretion. From the state of the stomach and bowels described, he would also empty their contents, that no irritation might be kept up from this cause, and add to the morbid condition of the brain, and the secretion of the skin being restored, he would endeavour to procure an evaporation from it by enforcing the use of cold water, or other cold drinks. Such is the practice that will be found to succeed in simple inflammatory fever. It is founded on principles that bring always with them conviction of their propriety. Compared with this, how little is to be expected from the usual prescriptions of the physician, consisting of small doses of antimony, or a saline draught. By irritating the stomach in

* It has been said, the sulphuret of ammonia diminishes the red particles of blood. If this should stand to fact, it would prove a highly valuable medicine in inflammatory diseases, and would supersede the use of bleeding, which is employed solely for the purpose of extracting or diminishing the red particles.

As a proof of the propriety of extracting red particles of blood, in this state of increased heat nature seems to do it by the urine, which forms what is termed a lateritious sediment, which contains iron, and as soon as it takes place, it is well known the fever is found to abate.

this highly sensible state of the body by wine or bark, much injury is often done, and the disease aggravated to the highest degree. When this practice succeeds, it is indeed more owing to the constitution of the patient than the scientific or adequate treatment of the physician ; for, under such remedies, had any part of the system been previously faulty, the patient must have fallen a victim to them.

The next order of this class of general diseases is intermittent fever, the constant and certain cause of which is Marsh Miasmata, or the effluvia produced by a humid soil. The effects of this effluvia are to produce great prostration of strength, and a strong reduction of the vital powers; the heat of the body is wonderfully lessened; the extremities become cold; the pulse feels small and feeble, and the countenance exhibits a ghastly appearance. This state, after continuing for some hours, is succeeded by an opposite one; the heat of the system becomes wonderfully augmented; the pulse acquires a fulness and vigour; and the vessels of the head appear overloaded. The duration of this change is limited to some hours, when a copious conducting surface is the means of terminating this fever, succeeded by a low, listless, and languid state.

These phenomena admit an easy explanation. The action of the Marsh Miasmata, or morbid cause, powerfully depresses the vital principle. To restore this, fever, or increased action of the system ensues, as an effort of nature to regain her lost energies.

To regain health under these circumstances, it is necessary to invigorate the system, and to choose the time when the fever or increased action is absent, that is during the intervals. The fever is here evidently a salutary attempt on the part of nature to preserve herself, and resist the morbid cause, but in attempting this her efforts are too strongly excited, and the succession of heat in so

high a degree too rapidly succeeds its diminished degree, the effect of the disease. Hence injury is often produced to some of the organs, and particularly the liver, the affections of which from this source, are too often considered by physicians rather as a cause than a consequence of the malady.

When the sensorial powers of the brain are disturbed by increased ignition, other phenomena are produced. The intellectual functions become, as a necessary consequence, disturbed. Delirium comes on; symptoms of extreme debility sooner or later supervene, and the morbid irritation of the nervous system once induced, will often continue after the increased heat has subsided. In this state there is a disposition in the fluids to decomposition, and in parts that are compressed mortification often takes place. This form of fever has been styled the putrid fever, or typhus, and is not always of an infectious nature. Such fevers are often epidemic, not from the principle of infection, but from a state or condition of the earth, that occasions them to spread independent of the utmost vigilance to cut off all communication with the infected. Not at the same time that it can be denied that fevers exist of a real contagious tendency, from a peculiar matter entering the system by the lungs; for through these organs are inhaled whatever noxious cause may be present in the atmosphere; and this is confirmed by the vapours of turpentine being smelt in the urine a few hours after its reception into the lungs.

In the treatment of such fevers, Chemistry directs the application of cold as the first and proper means to quiet the actions of the brain, and to produce next a conducting surface to carry off the superabundant heat above the natural standard. It then attends to emptying the intestinal canal, as the seat of powerful irritation; and lastly, it re-

commends to keep up a certain cohesion of fibre, from the strong tendency to decomposition; for which purpose astringent matter or tannin, is applied to the stomach, or an infusion of rhatany, and barks of a similar nature; and the surface is bathed or washed with vinegar on the same principle, a practice confirmed by experience as the most efficacious that can be adopted.*

But if the blood in this fever happens to be impregnated with an excess of muriate of soda, then it will exhibit other phenomena by the appearance of cutaneous inflammations and vesicles, as in erysipelas. Most diseases are aggravated by a super-saline state of the fluids, especially those of secreting surfaces, which acquire an acrimony from this cause, as catarrh, cough, fluor albus, gleet, &c. Where this state exists, the phlegm brought up from the lungs betrays a saline taste.

Besides the forms of fever already described, the ignition of the body is disturbed by contagious matter, or specific irritating principles, giving peculiar forms of disease, and terminating their operations by an appearance on the skin, as small-pox, measles, and chicken-pox, &c. During the increased ignition which attends their progress, a matter of the same nature as the contagion is generated to a considerable extent, and the body rendered secure against any future attack. As the production of morbid matter is proportioned to the degree of fever, it is of the highest importance in the treatment to diminish it on the first appearance.

During these fevers, as well as the other forms described, the excess of heat, or increased ignition, is very

* It is customary to exhibit Port wine in this fever, but the alcohol often disturbs the brain. Dr. Ferriar, of Manchester, asserts, that he has experienced all the good effects from the Rhatany root with sulphuric acid, he ever did from Port wine.

apt to produce mischief in tender organs. Hence we find that eruptive fevers, especially measles, are so often followed by consumption, particularly where there exists a delicate structure of the absorbent system, or what is termed a scrophulous predisposition. These consequences therefore strongly point out the necessity for using every means of reducing the excess of heat as quickly as possible to the natural standard. But where the natural determination of the disease is, as in these cases, to the skin, the circulation must not be checked to this part. It has indeed been practised to keep the body particularly cool in small-pox, and experience has proved, in the fullest manner, the utility of this plan; but in measles, the application of cold to the head may prove useful, yet to the surface of the body warm water will be more proper, in order to keep up perspiration, and prevent the determination to the lungs, which is so apt to take place in this peculiar disease.

From these facts it is obvious, that much mischief may be done at all times by the continuance of a high degree of increased ignition in tender parts of the system, and such is the formation of the animal structure, that there are few individuals in whom some part is not of a more weak or tender texture than another. By a continued accelerated circulation through such part, in consequence of fever, local derangement will sooner or later take place. Indeed, instances have occurred of the ignition of the body actually running so high, as to produce complete decomposition of the animal structure in a few hours, termed spontaneous combustion. The transactions of the Royal Society of London present a remarkable instance of this ignition of body rising to fatal excess. It occurred at Ipswich, and in the *Journal de Physique* of Paris, many cases, not less remarkable, nor less confirming

what has been observed above, will be found recorded. Increased heat then of the body, from its injurious effects, shews the necessity of keeping the system rather below than above the natural standard, and in proof of the advantage of it, we find persons of a languid habit are generally long-lived, and escape a number of diseases where the inflammatory habit catching fire on every occasion, or having its heat so easily increased above its natural standard, is the constant victim of disease, and rarely has his life protracted to a distant period.

The next order of diseases that occurs in the arrangement I have adopted, are those of diminished ignition, a strong example of which is afforded in dropsy, a disease of acknowledged debility. A chemical physician, reviewing the phenomena of this disease, would direct his treatment to increase the red particles of blood, that more oxygen may be attracted from the atmosphere. This, it is well known, can be done by the use of iron; which chemical analysis of the blood has taught us exists in a certain proportion in those particles. Thus it is by increasing the heat of the system that iron acts as a tonic on the body. The next object in the treatment of this disease will be to increase the general cohesion of fibre, and prevent the tendency to decomposition. This is done by astringents, particularly the various barks, as the Rhatany and Peruvian bark, and to these means he will next add the use of stimulants, with a view to rouse the action of the brain, while the parts affected by swelling are supported by rollers, or other mechanical means.

A morbid state of the sentient powers of the brain forms the next, and a very important class of diseases. The nerves, as they branch out from the brain, have all different offices assigned to them, and hence disease though excited by one and the same cause, exhibits very differ-

ent phenomena, in consequence of this circumstance. Where the communication between the brain and the nerves is cut off in any part of their course, that nerve or plexus of nerves, loses the power of performing its functions. This is evinced where compression of the optic nerve occurs by blindness being the consequence, in the same manner a division or morbid state of the lingual nerves, or those that supply the tongue, is attended with a loss of taste ; and in case of obtuseness or debility in the structure, the same effect will follow, in proportion to the degree of this deviation from their healthy state.

A morbid degree of irritation of the nerves of the lungs, or muscular fibres of the air vessels, is termed asthma. The same state, or morbid irritation of the nerves of membranes, or the ligaments of joints, is styled Rheumatism. A similar condition of the stomach forms indigestion ; morbid irritation of the kidneys, occasioning an excessive discharge of urine, is termed diabetes. This state of morbid irritation of the nerves of these different organs, may be either the effect of increased ignition, or excess of vitality, or its diminution or degree of heat below the natural standard. It may be here observed, that the nerves of one part of the body are more readily disturbed than in the rest of the system ; and this is often found a hereditary evil, transmitted from the parent to the offspring. Hence in a person, whose pulmonary nerves are more delicate and irritable than those of any other part of this system, whatever occasions a general derangement of health as changes of atmosphere, passions of mind, excesses of any kind, &c. will produce a fit of asthma or affection of these peculiar nerves. In another, where the nerves of the intestines are in this delicate state, diarrhœa or purging will be the effect of the application of the same morbid causes to the system. In a female,

with a morbid irritability of uterine nerves, hysteria shews itself, and the same might be exemplified in a variety of other instances. From this view of the system we can account for one disease suspending the action of another, from its producing a greater degree of irritation, even though that irritation is remote from the seat of the original disease, as by a blister applied to the leg, by fractures, &c.

Thus, to give instances, a blister applied to the leg, has cured a fit of asthma, and that state of mind produced by the influence of charms or mystic remedies, has been found highly beneficial in a great variety of nervous affections. An alarm has often cured a fit of gout, when the patient at the time has been unable to move, from the instantaneous and strong effect produced on his mind, in consequence of the terror of fire. Numerous instances of this kind are on record. From the different states then of ignition with which, as already stated, these different affections of the nerves are attended, I have, with a view to simplify their treatment, termed them super-irritative and sub-irritative;* by this division referring to the different degrees of ignition which exist in the two classes. This distinction is of the greatest importance in practice, for the remedies that apply to the one must prove highly injurious when applied to the other. To confirm this by example: In a plethoric female, hysteria is equally a common disease as in women of a different habit, who are delicate and irritable. *Asafœtida* tlen, and other antispasmodics, if given to the former, from the high state of ignition of the system, cannot fail to be attended

* Super-irritation of system is that state in which many diseases can only exist, and when this is removed either by medicine or the debilitating effects of the malady it terminates, when it is said spontaneously to cease. So with diseases of diminished irritation, by raising the system to a proper degree, health is restored.

with the greatest mischief, and here bleedings and purgings are the true antispasmodics suited to the existing morbid circumstances, while the real antispasmodics, so termed, are adapted on the contrary by their invigorating properties to the malady only as it occurs in the delicate and weakened constitution last described. In rheumatism the distinction now made has been long observed, and hence the terms of acute and chronic, as particularly applied to the two different forms of this disease. The distinction I now contend for is strongly confirmed in its propriety, by considering further the diseases of the young and the old. In youth there is evidently a strong disposition to increased ignition. The system shews a more lively degree of irritation, and the blood-vessels being for the most part overloaded, a greater degree of heat is evolved. To apply our knowledge of this state then on proper principles to the treatment of disease, we may observe that in white swelling, friction with the warm hand, a remedy lately recommended, is decidedly injurious in a young subject, as urging on by its stimulus the progress of the disease—in consequence of promoting increased ignition, and extending organic derangement of structure; but on the contrary, when the arterial system is in a different state, and shews no marks of being overloaded, then the same application of friction will be highly useful, by rousing the powers of the absorbent vessels, and promoting more actively the process of mutation. Hence the age of a patient is a point of the greatest consequence in directing the treatment of a disease as modifying the state of the same malady. To increase our examples, we may observe, that even indigestion, a disease generally attributed to debility and relaxation of stomach, is often an affection of the super-irritative kind. It occurs in persons who eat much animal food, and indulge in vinous liquors, by which the sanguiferous system becoming overloaded, the brain is

compressed, and languor, lassitude, and a sense of seeming weakness are the consequence. The same cause also banishes the enjoyment of sound sleep, from the brain being disturbed and the system rendered irritable. Here the usual remedies of stomachics and cordials, of high stimulant powers cannot fail to prove truly mischievous; while on the contrary, those means that tend to produce depletion, and unload the system, will restore the body to health.

Whenever the food is not properly digested, fermentation is a process that naturally ensues, occasioning acidity and disengagement of fixed air. The acid thus generated is very powerful, and is probably at the same time of an animal nature, and not merely acetous from the fermentation of vegetable matter, as supposed, for it is produced as much by animal food as the other. As a farther proof of its peculiar nature, when a drachm of magnesia is taken to correct the prevailing acidity of the stomach, it acts with more power than if the same magnesia had been neutralized with the sulphuric acid. There is also here a disengagement of hydrogen in the intestines, which is, I conceive, of an animal nature, being more heavy than common hydrogen. It is probably produced in the intestines, and passes downwards. It may be even ignited by fire.

Morbid irritation of the nerves of muscles is attended with spasm, or contraction of the muscular fibres, and in the large muscles, particularly those of the calf of the leg, they are very obstinate. In the circular muscles of the intestines, these spasms are most acutely painful, but in point of obstinacy and continued contraction, they exceed all description when they occur in the muscles of mastication, and produce the disease termed lock-jaw, and that proceeding probably from the

principal muscle, a short thick one, being naturally in a contracted state, in order to keep the jaws together.

In the view of the system formerly taken, it has been observed, the action of the brain regulates its economy, and that the nourishment and mutation of the body is dependent on it, for from it the several organs and vessels derive their powers of acting. In cases of morbid irritation of the nerves of any part, we have always to dread that diseased structure or partial derangement will be the consequence of its continuance, and which we find accordingly too often follows: for in the mutation of the body, a process constantly going on, if by this morbid irritation the unison be destroyed between the depositing and absorbing vessels, the consequence will be a diminution of bulk, or shrinking of the part, or it must increase in the contrary extreme, which is generally the case. This increase will partake of the nature of the part, in the mutation or support of which the vessels were concerned. Thus when the accumulation takes place in the cellular substance, a fatty tumour is formed; if in a bone, the accumulation will consist of bony matter; if in the cuticle, it will constitute a wart; if in the glands, it will exhibit the same degree of firmness and peculiar structure. In the glands of the female breasts, this accumulation is very common, producing that formidable disease termed cancer. In explanation, therefore, of such depositions, it is perfectly clear the nutrient vessels deposit more than the absorbent vessels can carry off, and thus the glandular matter continues to amass, till compression of the nutrient vessels takes place to that degree, that the source of nourishment is cut off from the part, when the latter becomes, as it were, an extraneous body subjected to all the changes which decomposition of animal matter assumes; and on putrefaction taking place, chang-

ing into an ulcer, peculiarly fetid and offensive. In the progress of this accumulation the absorbent vessels becoming enlarged, give an appearance from their tortuous convoluted course, as if they resembled the claws of a crab, from which the disease is named.

In the treatment of this and similar affections, the great object is to increase the action of the absorbent vessels of the part, which cannot be more effectually done than by friction and stimulating plasters, with the addition of heat to the part. These methods will certainly succeed in the early part of the disease, since its obstinacy is only produced by the compression of the absorbent vessels. From our former view of the mutations that take place in the system, the absorbent vessels act a very important part in its economy. From a morbid irritability of these vessels alone arises that peculiar disease termed scrofula, to which persons of delicate structure and morbid sensibility are most subject. Hence it is the disease of genius, of talent, and of those possessed of the finer feelings. Its obstinacy arises from the vessels being constantly in action. Cold bathing seems here so far useful as diminishing the morbid irritability better than any other means. The mischief thereby produced must be treated according to the predominant state the system displays as to ignition, i.e. whether it is of super-irritative or sub-irritative nature.

From the foregoing view of the human body, local diseases may be divided into three classes, viz. increased and diminished ignition; super-irritation and sub-irritation; and diminished irritation.

The first order of diseases of increased ignition or heat, are those termed inflammations, and here the local increase of ignition in a part is often very great, the part becoming tumified by the distension of its vessels, and effusion of lymph, the small vessels seem obstructed by

the lymph of the blood being thickened in consequence of its increased heat; and this is confirmed by the appearance of the fluid on scarification. In directing his treatment here, a chemical physician would not only unload the vessels of the part, but he would keep up also an evaporation from it by applying to it a simple fluid in a cold state to produce a conducting surface for this purpose. Alcohol and ether are the most effectual, as being more rapidly evaporated. The effect of ether indeed depends on its facility to escape, for if it be confined on the part by the hand, it will on the contrary increase irritation.

Besides this local treatment, he will no less attend to reducing the general increased ignition of the system, by cold applied to the head, by removing general fulness and internal irritation, by purgatives, and if the part affected be an important one in the economy, he will not stop short here, but direct the abstraction of blood by the arm from the general mass. This state of local super-ignition now described differs according to the particular part it occupies, and accordingly assumes different characters. When of the nerves, it is very acute, such as gout, &c.

The second order, diseases of local sub-ignition, occur in almost every part of the body, as well as the former, and they arise also from diseased absorbent vessels, and diminished irritation of nerves.

Of the local diseases of morbid irritation those of accumulation have been noticed, but where the discerning extremities of the nutrient vessels do not perform their office, then an opposite state to the former order of diseases takes place, the parts diminish in size, or shrink, termed atrophy. When this occurs in the bones, the disease is named rickets, produced in consequence of the phosphate of lime not being supplied or deposited in their substance in due quantity.

The difference in the appearance and nature of disease is not only modified by the difference of the vessels, but also by the very structure of the part in which it occurs. Thus the morbid irritation that disturbs the mutation of the cuticle will have a different appearance to what takes place where it disturbs the Rete Mucosum and true skin. This difference is strongly instanced in the scalp; if affecting the cuticle only it will exhibit a furfuraceous appearance, or form scald head;—if it extends to the rete mucosum, it will shew the appearance of ring-worm, and if it goes still deeper, it will then constitute a boil, and these different affections will differ no less in their appearance as they partake either of a state of super- or sub-ignition.

Besides the maladies enumerated, I have in my Nosology introduced a class of diseases from mechanical causes. The first order of this class arises from compression and comprises that fatal disease termed apoplexy. It also comprehends dropsy—the former arising from the compression of the brain, the latter from the compression of veins, particularly those of the liver. Jaundice also belongs to this division, from obstruction of the biliary duct by biliary concretions.

The second order arises from laceration, as hemoptoe, from rupture of vessels in the lungs, and hepistexis from a similar rupture of vessels in the nose.

A third order is formed of loss of natural support, as spina bifida, aneurism, rupture, &c.

A fourth order includes parasitical diseases, of which there are two divisions, internal and external.

The first comprehends the different species of worms, hydatids, stone in the bladder and kidneys, &c.

The latter consists of the itch, lousy disease, Guinea worm, &c.

Some exception may be made to this classification of stone, as giving it animation, and receiving it as a living parasitical production, but it certainly on chemical examination possesses animal properties, and shews at the same time a regular formed structure.

FROM the view thus exhibited of the principle of Animal Life, and the leading phenomena of Disease, the human body forms a complete machine, regulated in its movements and having its existence begun and continued by the action of its calorifying powers, joined with its sentient and intellectual functions. In the treatment then of disease, it is an attention to these combined powers that is to direct our conduct. We have seen, in examining this interesting subject, that the mind, that principle which soars superior to matter, has a leading influence over it, and particularly over that organ termed the brain, that its power exceeds that of any chemical agent, and that in consequence of this strong regulating influence it possesses, it is highly probable that the efficacy of medicine, and of all such matters as are directed to the cure of disease, depends much on the confidence of the patient, and the impression his mind receives from the flattering prospect held out by their use. Some medicines certainly do much good by the very disgust they excite, as *asafoetida*.

In the treatment of chronic diseases, the leading point for attention is the state of the digestive organs. The stomach, like the chemical digester of Papin, is the grand preparer of nourishment, an office on which greatly depends the existence and the health of the system. The importance of this office is particularly pointed out by the analogy of the vegetable kingdom. A shrub, whose branches are withering, stunted, and diseased, recovers as soon as it is transplanted from a bad to a good soil,

when it becomes strong, full, and healthy; so in the animal, a proper conversion of food into chyle will have an equal effect. But not only is it necessary that proper nutrition should be supplied for a healthy state, but it is also requisite that the superfluous or feculant parts should be removed, particularly from the intestines daily, as they are apt to be decomposed by the action of heat in the intestines, and thus to produce serious injury to the body. So much is Mr. Abernethy impressed with this fact, that there is almost no disease which he does not refer to a disordered state of the digestive organs, and to remedy which his treatment is accordingly adapted. One great error in common life may be here noticed as highly prejudicial to health, viz. the custom of indulging in wine or other stimulant liquors during and after dinner. This is not necessary to a healthy action of the stomach, and by accelerating its functions must evidently do harm. Cold water is the best promoter of digestion in youth and middle life, and wine is a cordial that should be only reserved for the weakened powers and incomplete digestion of age.

In the treatment of diseases again, the age of the patient is a leading point to regulate our conduct in the use of remedies. After the age of fifty, the heyday of life is past. The powers of the system begin to flag, and its former vigour to decay. Morbidity, or deranged structure, in consequence of imperfect mutation, is apt to take place, as ossification of arteries, thickening of parts, &c. The nervous system is less excitable or susceptible of impressions as it has hitherto displayed. The arterial fulness, or plethora, which distinguishes youth, has now passed to the venous system, where the blood is retarded and accumulates in different parts. At the period when inflammation occurs, and where bleeding may be indispensable as a remedy, it will be necessary to attend with a

guarded caution to the quantity and quality of the blood. The same attention must be extended in directing the use of every active medicine to counteract disease.

In the venereal disease for instance, the stomach and system should be prepared for the use of mercury; for if the stomach be disordered, and a morbid acidity generated, purging or diarrhœa will be the consequence. Hence in every chronic disease, before entering upon its cure, some preparatory treatment will be necessary to ensure the success of the means to be adopted.

CHEMICAL ANALYSIS

OF THE

HUMAN BODY.

BRAIN.

IN analyzing the substance of the brain it is found to consist chiefly of a pulpy matter, resembling in its properties albumen, with phosphates of lime, soda, and ammonia.

BONES.

The bones consist chiefly of phosphate and carbonate of lime, with some gelatinous matter.—Fish bones, and the bones of certain quadrupeds, have been found to contain sulphate lime.

SALIVA

Appears to be a combination of muriate soda, phosphates of lime, soda, and ammonia, with a portion of albumen and mucilage.

CHYLE

Has been but little examined; by evaporation it is reduced to a dry mass, which gives out in distillation empyreumatic oil and ammonia, leaving a residuum, consisting of carbonaceous matter, muriate soda, and other neutral salts.

MILK

Is composed of sugar of milk, water, oil, albumen, gelatine muriate soda, muriate potash, sulphur, and phosphate lime.

BILE

Is a compound of water, resinous matter, albumen, soda, phosphate and muriate soda, phosphate lime, saccharine salt, iron, and sulphuretted hydrogen.

BILIARY CALCULI

Contain lime, soda, ammoniacal salt, benzoic acid, and a bitter resinous matter.

URINE.

The urine of a healthy person always contains phosphates of lime and magnesia, carbonate lime, phosphoric, carbonic, uric, and benzoic acids; gelatine, albumen, muriate and phosphate soda; phosphate and muriate ammonia; sulphur, resin, urea.

URINARY CALCULI

Generally consist of urate ammonia, though sometimes of phosphates of ammonia and magnesia.

PERSPIRABLE MATTER

Appears to be principally water, in which lymph and carbonic acid are dissolved.

BLOOD.

This important fluid separates spontaneously on standing, into two different parts;—the white part is termed serum, the other coloured part the crassamentum. The former is composed of gelatine albumen, sulphur, muriate and carbonate soda, with phosphates of soda and lime. The crassamentum consists of albumen, phosphates of iron and soda.

MUSCLES

Consist of fibre, gelatine, albumen, and extract, with phosphates of ammonia, lime and soda, and carbonate lime.

THE SKIN

Consists of three parts, the epidermis, mucous membrane, and the cutis. The epidermis contains albumen, gelatine, and phosphate lime; the two latter contain the same as the epidermis, with the addition of fibre, and a larger portion of gelatinous matter.

NAILS.

The nails, horns, and hoofs of animals consist, according to Mr. Hatchett, principally of a kind of coagulated albumen.

HAIR.

Bertholet has shewn that hair yields nitrogen, sulphur, carbonate ammonia, and charcoal.

FAT

Is a combination of the phosphate of lime, with sebatic acid.

TEARS

Contain water, soda, muriate and phosphate soda, phosphate lime, and mucilage.

MUCUS OF THE NOSE

Is constituted of the same principles as the tears, excepting a larger portion of mucilage. Its greater viscosity is owing probably to its being more exposed to the air, and to the absorption of oxygen.

WAX OF THE EAR

Consists of phosphate lime, soda, albumen, and oil.

SEMINAL FLUID

Contains mucilage, water, soda, and phosphate of lime.

INTESTINAL GAS.

Where the digestion is good, seldom any other than the carbonic acid is formed; but a slow and irregular digestion generally gives rise to the formation of azotic, sulphuretted and carbonated hydrogen.

DESCRIPTION

OF THE DIFFERENT

MEDICINE CHESTS,

KEPT AT THE

CHEMICAL & MEDICAL HALL,*

No. 171, PICCADILLY.

OPPOSITE BOND STREET.

(LATE OF BEDFORD-STREET, COVENT GARDEN.)

THE TROPICAL DISPENSARY

For the East and West Indies, Africa, and South America. Of this Chest there are four sizes.—The largest size contains in the upper division,

Four pint bottles for

Magnesia	Epsom salt
Peruvian bark powder	Mindererus's spirit

Sixteen half-pint bottles for

Tincture of Rhubarb	Camphorated spirit
Paregoric elixir	Opodeldoc
Castor oil	Compound tinct. bark
Salt of Wormwood	Vol. tinct. guaiac gum
Concrete acid of lemon	Comp. spirit of lavender
Antimonial wine	Comp. tincture of senna
Sp. Sal. volatile	Ginger powder
Liquid Laudanum	Extract of lead

* The Chemical and Medical Hall was established by the Author in the year 1802, for the purpose of supplying the Public with the choicest drugs and chemical preparations. As no article is allowed to be sold there which has not been previously examined by the Author, he can take upon himself to say that the most implicit confidence may be placed in every drug or medicine procured from it. The Author having thus pledged himself to the strict performance of this engagement, he begs the Public will observe that every article exceeding the price of One Shilling, sold at this Establishment, has a label affixed to it, expressive of its name, and of its coming from the Medical Hall, Piccadilly.

Thirty-two four ounce bottles for

Diluted vitriolic acid	G. arabic powder
Tincture of myrrh	Nitre ditto
Ether	Camphor
Rhubarb powder	Aromatic tincture
Jalap ditto	Prepared natron
Basilic ditto	Essence of Peppermint
Compound cretaceous ditto	Ditto cinnamon
Tincture asafœtida	Comp. tincture gentian
Bals. Copaivi	Dover's powders
Ipecacuan powder	Antimonial powder
Olive oil	Alum
Oil turpentine	Vitriolated zinc
Sp. hartshorn	Muriatic tincture of steel
Tinct. ginger and Camomile	Cascarilla powder
Sweet sp. nitre	Hoffman's anodyne liquor
Salt of steel	Ipecacuan wine

In the drawers—partitions for

Senna leaves	Different plasters
Peruvian bark bruised	Tow, corks, syringes
Cream of Tartar	Tourniquet, probang, &c.
Flowers of sulphur	

Twelve bottles for

Prepared calomel	Essence for tooth-ache
Red precipitate	Lunar caustic
Emetic tartar	Red precipitate
Smelling salts	Blue vitriol
Acetic acid	Opium powder
Essential salt of bark	Essence of penny royal

Eight pots for

Mercurial ointment	Blistering plaster
Yellow basilicon	Spermaceti ointment
Brown cerate	Comp. colorynth pill
Citrine ointment	Squill pill

Partitions for

Scales and weights, graduated measures, bolus knives, spatula, slab, &c. This chest, furnished as above, with book of directions, amounts to										-	-	-	£13	10	0
Second size	ditto	-	-	-	-	-	-	-	-	-	-	-	11	15	0
Third	ditto	ditto	-	-	-	-	-	-	-	-	-	-	10	5	0
Fourth	ditto	ditto	-	-	-	-	-	-	-	-	-	-	8	15	0

DIRECTIONS

FOR THE

USE OF THE MEDICINES,

CONTAINED IN THE FIRST SIZE OF THE

TROPICAL DISPENSARY.

(See Dispensary, fol. 108.)

MEDICINES.	DOSES.		Proper Vehicle, &c.	Effects, &c.	Diseases;—proper for
	Adults.	Children from 2 to 4 years			
Magnesia	20 to 40 grains	5 to 10 grains	mint water	absorbent	heartburn and acidity
Peruvian bark powder	20 to 60 grains	10 to 15 grains	mint wat. 4 or 6 times	tonic	ague, indigestion, weakness
Epsom salt	4 to 8 drams	2 to 3 drams	mint water	gentle aperient	costiveness
Mindererus's spirit	3 to 4 drams	1 to 2 drams	mint wat. 3 or 4 ti. a day	sudorific and cooling	fever, pleurisy
Tincture of Rhubarb	4 to 6 drams	1 to 2 drams	in mint water	aperient and carmin.	costiveness, colic, &c.
Paregoric elixir	1 to 2 drams	15 to 20 drops	barley wat. 4 ti. a day	anodyne	cough, asth. pain the bow.
Castor oil, cold expressed	4 to 10 drams	3 to 5 drams	mint water	purgative	colic, costiveness
Salt of wormwood	5 to 8 grains	1 to 4 grains	mint wat. twice a-day	alkaline	heartburn, rickets

MEDICINES.	DOSES.		Proper Vehicle, &c.	Effects, &c.	Diseases;—proper for
	Adults.	Children from 2 to 4 years.			
Lemon acid. See saline draught, page 147.					
Antim. wine (as an emetic)	2 to 4 drams	1 to 3 drams	water	emetic	
Spirit sal volatile	20 to 40 drams	6 to 10 drops	ditto	stimulant	hysteric and fainting fits
Laudanum	10 to 30 drops	3 to 5 drops	mint water	anodyne	restlessn. acute pains, asth.
Spirit of camphor, externally for sprains, bruises, &c.					
Opodocidoc, externally for sprains, &c.					
Tinct. bark, Huxham's	2 to 4 drams	40 to 60 drops	Port wine 4 ti. a day	tonic	relaxation and weakness
Ditto guaiac	1 to 3 drams	12 to 30 drops	water 2 or 3 ti. a day	stimulant and sudor.	chronic rheumatism, gout
Lavender, comp. sp. of	30 to 80 drops	10 to 20 drops	water	cordial	fainting, or lowness of spir.
Senna leaves	1 to 3 drams	1 scrup to a dram	ditto	purgative	costiveness and colic
Ginger powder	20 to 30 grains	6 to 10 grains	ditto twice a day	stimulant	gout, indigestion, flatulence
Extract lead, externally					
Diluted vitriolic acid	12 to 20 drops	7 to 10 drops	camomile tea	stomachic	indiges. flatulence, relaxa.
Tincture, myrrh	1 to 2 drams	10 to 15 drops	water	strengthening	green sickness, debility, &c.
Ether	30 dps. to 1 dm.	8 to 10 drops	cold water	antispasmodic	asthma, cramp, and flatulen.
Rhubarb powder	20 to 30 grains	5 to 8 grains	in mint water	aperient	costiveness
Jalap powder	20 to 30 grains	5 to 10 grains	mint water	purgative	costiveness
Basilic do.	20 to 25 grains	6 to 8 grains	honey, twice a week	vermifuge & cathartic	worms, costiveness, dropsy

MEDICINES.	DOSES.		Proper Vehicle, &c.	Effects, &c.	Diseases ;—proper for
	Adults.	Children from 2 to 4 years.			
Com. cretaceous powd.	10 to 20 grains	5 to 8 grains	mint wa. every 3 or 4 h.	astrigent	obstinate purg. & dysentery
Tincture, asafetida	30 to 60 drops	1 to 2 drops	water, twice a day	antispasmodic	hysterics, asthma, hooping
Balsam of copaiva	20 to 40 drops	6 to 8 drops	in honey, ditto	diuretic and balsamic	whites, gleet, gravel
Ipecacuan powder	20 to 30 grains	5 to 10 grains	water	emetic	
Olive oil for liniments and ointments					
Oil of turpentine	15 to 20 drops	4 to 5 drops	honey, twice a day	diuretic, &c.	gleet, gravel, rheumatism
Spirit of hartshorn	20 to 40 drops	5 to 8 drops	water, 2 or 3 ti. a day	stimulant	hysterics, convul. heartburn
Tinct. ginger and cham.	10 to 40 drops	6 to 10 drops	ditto, 3 or 4 ditto	stomachic	gout, cramp in the stomach
Spirit of nitre	20 to 60 drops	8 to 10 drops	barley water, 2 or 3 ti.	diuretic and febrifuge	strangury, heat of urine, fev.
Salt of steel	1 to 3 grains	$\frac{1}{2}$ to 1 grain	pill, twice a day	tonic	indigest. rickets, worms, &c.
Powdered nitre	5 to 20 grains	2 to 4 grains	barley water, 2 or 3 ti.	diuretic and febrifuge	strangury, heat of urine, fev.
Camphor	2 to 4 grains	1 to 2 grains	in a pill, twice a day	antispasmodic	hooping cough, convuls. fits
Aromatic tincture	3 to 4 drams	20 to 30 drops	water	astrigent	flatulence, indigestion
Prepared natron	5 to 10 grains	2 to 3 grains	mint water, 2 or 3 ti.	alterative	scrophula, heartburn, cancer
Essence of peppermint	3 to 6 drops	1 to 2 drops	water	carminative	colicky pains, flatulency, &c.
— cinnamon	3 to 10 drops	1 drop	ditto	stimulant	ditto
Tincture of gentian	1 to 2 drams	12 to 30 drops	water, 3 times a day	stomachic	indigestion, flatulence, &c.
Dover's powder	10 to 20 grains	3 to 6 grains	in water	sudorific and anodyne	rheumatism, recent colds, &c.
Antimonial ditto	from 3 to 5 grs.	1 to 3 grains	honey	sudorific	inflam. fever, pleurisy, &c.
Alum	3 to 10 grains	1 to 2 drams	water, 3 times a day	astrigent	flooding

MEDICINES.	DOSES.		Proper Vehicle, &c.	Effects, &c.	Diseases;—proper for
	Adults.	Children from 2 to 4 years.			
Vitriolated zinc (extern.)	10 grains		in a pint of water		inflammation of the eye.
Muriated tinct. of steel	10 to 30 drops	3 to 6 drops	water, twice a day	tonic	indigest. rickets, worms, &c
Cascarilla powder	10 to 20 grains	3 to 6 grains	mint water, 3 ti. a day	stomachic	indigestion, weakness
Hoffman's anodyne liq.	30 to 40 drops	6 to 10 drops	water, ditto	antispasmodic	nerv. fever, asthma, hysterics
Ipecacuan wine	4 to 8 drams	2 to 3 drams	ditto	emetic	
Senna leaves	1 to 3 drams	1 scrup. to dram	boiled in water	purgative	costiveness and colic
Bark powder	20 to 60 grains	10 to 15 grains	mint wat. 4 or 6 times	tonic	ague, indigestion, weakness
Cream of tartar	1 to 4 drams	20 to 30 grains	honey, every morning	aperient & alterative	inflam. erupt. of the skin, &c.
Flowers of Sulphur	1 to 4 drams	20 to 30 grains	ditto, once a day	ditto	cutan. foulness, piles, worms
Calomel	1 to 2 grains	half to 1 grain	in a pill, twice a day	alterative	vene. disease, foul ulcers, &c.
Red precipitate					
Emetic tartar	1 to 2 grains	$\frac{1}{4}$ to $\frac{1}{2}$ grain	water	emetic	head-ache
Smelling salts					ditto
Acetic acid					
— salt of bark	5 to 10 grains	2 to 3 grains	Port wine, 4 times a day	tonic	relaxation and weakness
Opium powder	1 to 2 grains	$\frac{1}{4}$ grain	pill	anodyne	restlessn. acute pains, asth.
Essence of pcunvroyal	6 to 8 drops			stimulating	flatulence, hysterics
Comp. coloeynth pill	10 to 20 grains	4 to 8 grains	occasionally	purgative	costiveness
Squill pill	6 to 10 grains	1 to 3 grains	honey, twice a day	expectorant & diuretic	dropsy, asthm. chronic cough
Perry's essence					tooth-ache

THE
MILITARY DISPENSARY,

FOR THE
USE OF OFFICERS,
CONTAINS

Five bottles on the top for

Magnesia	Epsom salt
Tincture of rhubarb	Opodeldoc
Huxham's tinct. rhubarb	

Eight bottles in the drawer for

Spirit of hartshorn	Liquid laudanum
Rhubarb powder	Essence for toothache
Essence of peppermint	Emetic tartar
Antimonial powder	Prepared calomel

Partitions for

Preventive soap	Lint
Court plaster	Scales and weights

DIRECTIONS

FOR THE USE OF THE CONTENTS OF THE

MILITARY CHEST FOR OFFICERS.

MEDICINES.	DOSE.	Proper Vehicle, &c.	Effects, &c.	Diseases;—proper for,
Magnesia	20 to 40 grains	mint water	absorbent and aperient	heartburn and acidity
Tinct. of rhubarb	4 to 6 drams	ditto	aperient and carmin.	costiveness, colic, &c.
Huxham's tinct. bark	2 to 4 drams	water, 3 or 4 ti. a day	tonic	relaxation and weakness
Epsom salt	4 to 8 drams	mint water	gentle aperient	costiveness
Opodeldœo extenally				sprains and bruises
Spirit of hartshorn	20 to 40 drops	water, 2 or 3 ti. a day	stimulant and sudor.	chronic, rheumatism, gout
Rhubarb powder	20 to 30 grains	in mint water	aperient	costiveness
Essence of peppermint	3 to 6 drops	water	carminative	colicky pains, flatulency, &c.
Antimonial powder	from 3 to 5 grs.	honey	sudorific	inflam. fever, pleurisy, &c.
Liquid Laudanum	10 to 30 drops	mint water	anodyne	restlessn. acute pains, asth.
Essence for toothache, with directions				
Emetic tartar	1 to 2 grains	water	emetic	
Prepared calomel	1 to 2 grains	in a pill, twice a day	alterative	vene. disease, foul ulcers, &c.

PREVENTIVE SOAP.

This preparation is recommended by the Author of a Treatise on the Prevention and Treatment of the Venereal Disease, as an effectual preventive of the Venereal Disease, who gives the following instructions for its use :—

“ With this soap it is only necessary to wash the external parts in the same manner as with common soap. This will effectually destroy the infectious matter of pox, but if the subject be affected with clap, it will also be necessary to wash out the urethra with water, rendered slightly turbid by the soap, and for this purpose a syringe will be necessary.”

“ After an impure or suspicious connection, a man should as soon as possible make water, and in order to wash well behind the glans penis, and the part beneath, termed the frænum (where infectious matter is likely to lodge,) he should draw forward the prepuce, or loose skin, with his fingers, and close the end that it may be distended by the urine; it may then be discharged and the bladder completely evacuated, which will remove any matter that may have got into the urethra. The glans penis and the prepuce should then be wiped perfectly dry, and the parts afterwards washed as above directed.”

“ The proper application of this remedy I have never known to fail with gentlemen in a great number of instances after connection with an infected woman; and I am persuaded, if these means were strictly followed, these diseases, which now make such horrid ravages, might be exterminated.”

CONTINENTAL DISPENSARY,

FOR THE USE OF TRAVELLERS TO

FRANCE, GERMANY, ITALY, HOLLAND, SPAIN, AND RUSSIA.

The largest, or first Size, contains in the upper Partition,

Eight half-pint bottles, for

Magnesia	Mindererus's spirit
Epsom salts	Cream of tartar
Castor oil	Flowers of sulphur
Tincture of rhubarb	Senna leaves

*Twenty-four wide and narrow-mouth square
bottles, for*

Huxham's tinc. of bark	Vol. tinc. of guiac gum
Tincture of senna	Opodeldoc
Ditto camomile and ginger	Extract of lead
Spirit of lavender	Salt of wormwood
Paregoric elixir	Peruvian bark
Spirit of hartshorn	Ipecacuan powder
Ditto sal volatile	Rhubarb ditto
Sweet spirit of nitre	Jalap ditto
Vitriolic ether	Refined camphor
Antimonial wine	Cretaceous powder
Tincture of myrrh	Gum arabic
Diluted vitriolic acid	Purified nitre

Eight bottles in a drawer, for

Liquid Laudanum	Basilic powder
Essence of peppermint	Antimo. febrifuge powder, commonly called James's
Prepared Calomel	fever powder
Emetic tartar	Camphorat. acetic acid
Salt of steel	

Six pots in a drawer, for

Blistering plaster	Brown cerate
Spermaceti ointment	Compd. colocynth pill
Yellow basilicon	Squill pill

A large drawer, for

Diachylon plaster	Tyle
Gum plaster	Pestle and mortar
Lint	Graduated measure and funnel
Court plaster	Lavement bag
Leather	Tourniquet
Spatula	Probang
Bolus knife	Book of directions, &c.
Box of scales and weights	

Complete, with medicines £9 5 0

The SECOND Size.

Containing eight half-pint bottles, eighteen 4 oz. bottles, six small bottles in a drawer, six pots for ointment and pills, partitions for plasters—spatula, bolus knife, scales and weights, pestle and mortar, graduated measure, tyle, lavement bag and pipe, tourniquet, probang, and book of directions. Complete with medicines, £8 6 0

The THIRD Size.

Containing, on the top, three half-pint bottles, twelve four ounce, a large drawer with five small bottles, five pots—pestle and mortar, graduated measure, scales and weights, bolus knife. Complete, with medicines and book of directions, £5 5 0

DIRECTIONS

FOR THE

USE OF THE CONTENTS

OF THE FIRST SIZE OF THE

CONTINENTAL DISPENSARY.

MEDICINES.	DOSES.		Proper Vehicle, &c.	Effects, &c.	Diseases;—proper for
	Adults.	Children from 2 to 4 years.			
Magnesia	20 to 40 grains	5 to 10 grains	mint water	absorbent	heartburn and acidity
Epsom salt	4 to 8 drams	2 to 3 drams	ditto	gentle aperient	costiveness
Castor oil	4 to 10 drams	3 to 5 drams	ditto	purgative	colic, costiveness
Tincture of Rhubarb	4 to 6 drams	1 to 2 drams	ditto	aperient and carmin.	ditto ditto
Mindererus's spirit	4 drams	1 to 2 drams	ditto, 3 or 4 ti. a day	sudorific and cooling	recent inflam. fev. pleurisy
Cream of tartar	1 to 4 drams	20 to 30 grains	honey, every morning	aperient & alterative	inflam. erupt. of the skin, &c.
Flowers of sulphur	1 to 4 drams	20 to 30 grains	ditto, once a day	ditto	cutan. foulness, piles, worms
Senna leaves	1 to 3 drams	1 scrup. to drl.	water	purgative	costiveness and colic
Tinct. of bark, Huxham's	2 to 4 drams	40 to 60 drops	ditto, 4 times a day	tonic	relaxation and weakness
Tincture of senna	6 to 12 drams		ditto	purgative	costiveness and colic
Tinct. ginger and cham.	10 to 40 drops		ditto, 3 or 4 times a day	stomachic	gout, cramp in the stomach
Spirit of lavender	30 to 80 drops	10 to 20 drops	ditto	cordial	fainting, or lowness of spirits
Paregoric elixir	1 to 2 drams	15 to 20 drops	barley water, 4 ti. a day	anodyne	cough, asth. pain the bow.

MEDICINES.	DOSES.		Proper Vehicle, &c.	Effects, &c.	Diseases ;—proper for
	Adults.	Children from 2 to 4 years.			
Spirit of bartsborn	20 to 40 drops	5 to 8 drops	water, 2 or 3 ti. a day	stimulant & sudorific	chronic rheumatism, gout
Spirit sal volatile	20 to 40 drops	6 to 10 drops	water	stimulant	hysteria and fainting fits
Sweet spirit of nitre	15 to 30 drops	6 to 12 drops	barley water	diuretic & febrifuge	strangury, gravel, fevers
Vitriolic ether	30 dps. to 1 dm.	8 to 10 drops	cold water	antispasmodic	asthma, cramp, & flatulence
Antimonial wine	2 to 4 drams	1 to 3 drams	water	emetic	
Tincture of myrrh	1 to 2 drams	10 to 15 drops	ditto, 2 or 3 ti. a day	strengthening	green sickness, weakness
Diluted vitriolic acid	12 to 20 drops	7 to 10 drops	camo. tea, twice a day	stomachic	indiges. flatulence, relaxa.
Vol. tinct. guaiac gum	1 to 3 drams		water, 2 or 3 ti. a day.	stimulant & sudorific	chronic rheumatism, gout
Opodeldoc (extern.)			ditto		sprains, bruises, &c.
Extract of lead			in water		inflammation
Salt of wormwood	5 to 8 grains	1 to 4 grains	mint water, twice a day	alkaline	heartburn, rickets
Peruvian bark	20 to 60 grains	10 to 15 grains	ditto, 4 or 6 ti. a day	tonic	ague, indigestion, weakness
Ipecacuan powder	20 to 30 grains	5 to 10 grains	water	emetic	
Rhubarb powder	20 to 30 grains	5 to 8 grains	in mint water	aperient	costiveness
Jalap powder	20 to 30 grains	5 to 10 grains	ditto	purgative	costiveness
Refined camphor	2 to 4 grains	1 to 2 grains	in a pill, twice a day	antispasmodic	hooping cough, convuls. fits
Cretaceous powder	10 to 20 grains	5 to 8 grains	mint wa. every 3 or 4 h.	astringent	obstinate purg. & dysentery
Gum arabic					
Purified nitre	15 to 30 drops	6 to 12 drops	barley water	diuretic & febrifuge	strangury, gravel, fevers
Liquid Laudanum	10 to 20 drops	4 to 6 drops	mint water	anodyne	restlessn. acute pains, asth.

MEDICINES.	DOSES.		Proper Vehicle, &c.	Effects, &c.	Diseases; proper for
	Adults.	Children from 2 to 4 years.			
Essence of peppermint	3 to 6 drops	1 to 2 drops	water	carminative	colicky pains, flatulency, &c.
Prepared calomel	1 to 2 grains	$\frac{1}{2}$ to 1 grain	in a pill, twice a day	alterative	ven. disease, foul ulcers, &c.
Emetic tartar	1 to 2 grains	$\frac{1}{4}$ to $\frac{1}{2}$ grain	water	emetic	
Salt of steel	1 to 3 grains	$\frac{1}{2}$ to 1 grain	ditto twice a day	tonic	indigest. rickets, worms, &c.
Basilic powder	20 to 25 grains	6 to 8 grains	honey, twice a week	vermifuge & cathartic	worms, costiveness, dropsy
Antimonial powder	from 3 to 5 grs.	1 to 3 grains	ditto	sudorific	inflam. fever, pleurisy, &c.
Camphorated acetic acid, for smelling					head-ach.
Compound colocynth pill	10 to 20 grains	4 to 8 grains	occasionally	purgative	costiveness
Squill pill	6 to 10 grains	1 to 3 grains	twice a day	expectorant & diuretic	dropsy, asth. chronic cough

A CONCISE ACCOUNT
OF
PREPARATIONS AND DRUGS
OF APPROVED EFFICACY.

And particularly recommended for Families residing in the Country.

(FROM DR. REECE'S MEDICAL GUIDE.)

PREPARED CHARCOAL.

WELL calcined charcoal, reduced to a fine powder, is, no doubt, a very innocent and excellent tooth-powder. It gives the teeth a fine, healthy, white, appearance; destroys the offensive effluvia arising from caries of the teeth, which is often so considerable as to contaminate the breath, and will not only prevent that disease of the enamel attributed to the scurvy, but even arrest its progress after it has taken place; and it is worthy of remark, that people who have suffered much from tooth-ach, have not experienced a return of it after the use of this powder. It is likewise very efficacious in destroying unpleasant tastes in the mouth, and for cleaning the tongue in cases of putrid fever, sore throat, and indigestion. The charcoal, prepared from the Areca nut, has been held in high estimation among the Indians; and Dr. Lind, late of Bengal, states, that by its use he has preserved all his teeth perfectly sound, although now arrived to the age of eighty; and several very respectable gentlemen who have resided many years in the East Indies, have assured us that it is esteemed a great preserver of the teeth, and a certain preventive against the tooth-ach. The charcoal of the Areca nut, (generally termed Betel nut in this country) certainly affords a more smooth powder than that of wood, and therefore, in cleaning the teeth, more efficacious. It also possesses an alkalescency, which renders the matter that adheres to the tooth more readily removed by the brush; a property from which the common charcoal is entirely exempt.

On the very respectable authority of Dr. Lind, we can have no hesitation in recommending its adoption in preference to that of wood, particularly as it may now be procured with equal facility; the Areca nut having been imported expressly for the purpose of making charcoal.

The tooth powders recommended by many dentists, and those sold by perfumers, are composed of the most destructive minerals, which for a short time render the teeth white, but ultimately prove very injurious to the enamel. Indeed, such is the mischief that uniformly follows their use, that the introduction of the Areca

charcoal into this country, may be considered as a great desideratum, and, as soon as its valuable properties are known, it will, no doubt, be generally adopted.

The tincture of Rhatany root, mixed with a little water, forms a very excellent astringent lotion for the teeth, and should always accompany the use of the prepared charcoal, or any other dentifrice. This tincture, from its peculiar astringent power, braces and strengthens the gums, and its repeated use has often succeeded in fastening loose teeth.

The tooth-powder, industriously advertised under the name of *Prepared Charcoal*, is not a genuine charcoal powder, but a composition of burnt oyster-shells, which in no respect resembles charcoal, and as a dentifrice, must prove injurious by abrading the enamel of the teeth. This composition is of a grey colour, whereas the charcoal is perfectly black.

PREPARED CHARCOAL

ESSENTIAL SALT OF BARK.

THIS preparation, first introduced into practice in this country, by Dr. Charles J. Smyth, contains in a concentrated state, the volatile and active properties of the Peruvian bark, in a high degree of perfection, and answers every purpose of the powder, without producing the ill effects of nausea, vomiting, and purging, so much to be dreaded in diseases of debility, such as putrid sore throats, mortifications, and agues; cases in which no other preparation of this valuable medicine affords a proper substitute for the powder.

Ten grains of the essential salt are equal to a drachm of the bark in substance. It is much more pleasant to the palate, and agrees better with the stomach, and may, with equal advantage, be employed where the use of a strengthening medicine is indicated. In intermittent and remittent fevers, ten grains may be taken every two hours, either in the form of pills, or dissolved in an ounce of camphorated julep; but for low fevers, putrid sore throat, and mortifications, red port wine is a proper vehicle; with which, in the proportion of three drachms to a quart, it makes an elegant tincture, possessing all the active properties of the Peruvian bark, and at the same time free from the pernicious effects of the ardent spirit of wine with which the different simple and compound tinctures are made.

In cases of indigestion, general weakness, whites, and gleans, the following form has been found to answer best:

Take of essential salt of bark, two drachms; dried soda, half a drachm; oil of caraways, ten drops. Mix them well together, and with simple syrup form a mass; to be divided into thirty-six pills, two or three of which are to be taken three times a day. If the patient cannot take pills, the solution of the salt of bark in port wine, as above directed, may be substituted for them.

THE MEDICAL GUIDE,

FOR

THE EAST INDIES.

PART I.

STATE OF CLIMATE AND WEATHER IN THE PROGRESS OF AN EAST INDIA VOYAGE.

OUTWARD PASSAGE.

THE course of an East India voyage exposes the constitution of the seamen to a greater variety of climate than most others, and as the diseases on this voyage are few in number, and in general not very fatal, it shews that a life at sea is more healthy than on land, if the circumstances of diet, and those regulations on board which contribute to the comfort of the mariner, are attended to. The atmosphere at sea is indeed allowed to be more steady and less apt to be affected by the various local circumstances which influence it on shore.

At the time of the season at which the East India fleet generally sails, the weather down Channel, and till they get to the latitude of Madeira, is generally cold, raw, and foggy, or else attended with frost and snow.

Colds, pectoral complaints, and rheumatism, are accordingly the prevailing diseases on board, and they are frequent in proportion to the tempestuousness of the weather, exposing the men to great exertions, particularly to night duty. The period during which this state of climate lasts is generally from a month to five weeks, or more, according to circumstances.

The arrival at Madeira puts an end to a northern atmosphere, and the ship soon gets into weather warm, dry, and temperate, favoured with the steady current of a trade wind to carry her on. These perpetual winds between the tropics, which have got this name from their being so regular, and consequently so useful to navigation, have also a considerable influence on the health of seamen. They cool and refresh the air, which would be otherwise insupportable. While they blow steadily, there prevails among the crew an uninterrupted state of good health; but when they cease, the air becomes hot, suffocating, and insupportable, and disease for a certainty ensues. Between the tropics they blow all the year steadily in an easterly direction, lessening the constant and intense heat of the sun; but on each side of the line this regularity is interrupted. They vary a little, and are north-east in the north, and south-east, in the south. They extend to the 28th degree of latitude on each side of the line, but as they approach the equator disappear, giving place to calms and variable cur-

rents of air. These observations apply to the state of weather in open sea, not to that variety which always takes place as an approach is made to the shore.

During the progress from Madeira to the Line, the weather is warm, dry, and temperate, occasionally very hot and sultry in calms, but very frequently refreshed, and cooled by showers or the presence of a clouded sky. According to this variety disease is more or less prevalent, and it is confined generally to fevers of the remittent or low kind.

As the ship approaches the higher latitudes the weather is generally more unsteady, often cold and tempestuous, and particularly if it continue hazy and moist, for some time the scurvy is apt to make its appearance. This disease is seldom allowed to gain much head before the ship anchors at some resting place, which brings every supply to remove it from the shore. One of the most common anchoring places with this view in the voyage out, is at Augustine's Bay, on the coast of Madagascar. This large island extends from twelve to twenty degrees south latitude, and abounds with all kinds of refreshments. It possesses a healthy climate and a dry air. Though unpromising in its appearance about the bay by craggy precipices and woods, about a mile up the river it presents a high ground clear and open. The inland country is fertile, and affords a variety of landscapes, presented by the hand of nature, for here no improvement takes

place: every thing grows spontaneously. Even husbandry is neglected or committed to the care of the females. Every vegetable here rears itself with luxuriance, and the animal food of every kind is in equal abundance and perfection.

Here the heat of the climate is tempered by sea and land breezes in regular succession; on one side it enjoys the perpetual trade wind, and on the other the monsoon.

From April to November the sky is dry, clear, and temperate, healthy to the Europeans who touch here for refreshment. The unfavourable or rainy season is from November to March, when the atmosphere is dark, gloomy, and boisterous, unfavourable to sick Europeans, unless they are removed up the river to where the villages stand, or they may be daily put on shore at *Tant* Rock during the day to enjoy exercise and the land air, and be removed to the ship at night. Such precautions, however, only regard the unhealthy period of the season.

In proceeding farther on the voyage, the weather is generally sultry, frequently hazy, with occasional light gales. In this state of weather fevers of the low kind, with a tendency to putrefaction, make their appearance. Soon after also, as the ship approaches the Indian coast, bilious affections begin to shew themselves, and that redundancy in the secretion of bile, the effect of excessive heat, to become general among the crew.

Such is the progress of a Bengal voyage, but

when the course is to Madras some difference takes place in the anchoring place. In a Madras voyage the ship generally anchors at Johanna, one of the Comorant islands. This island is situated at an equal distance from the north-east end of Madagascar, to the eastern coast of Africa, affording a most delightful and picturesque landscape. The land appears remarkably elevated, towering up in many places into high peaks. The anchoring ground is not of considerable extent, and thinly covered with trees and shrubs. From the ready supply of wood and water, as well as provisions, which this island affords, it is constantly touched at by the outward-bound fleet. The air of it, however, is not very healthful, for the high mountains are covered with a thick fog, and a residence on the island has been known to prove fatal to the crews of several ships, who had imprudently trusted their men to sleep ashore.

CLIMATE AND POSSESSIONS IN INDIA.

Having thus arrived on the coast of India, and got into harbour, or set foot on land, it is proper to consider the climate of the different parts of this extensive country visited by Europeans, and the effects produced by this circumstance in the production of disease.

COAST OF MALABAR.

The first part that claims our attention is the coast of Malabar, which is divided from Coromandel by a ridge of high mountains that extend northward, and are called the Gate or Batagate. The interposition of those high mountains produces this difference of the seasons, observable on the two opposite coasts; for the coast of Malabar enjoys warm weather, while the other is drenched in rain.

The first English settlement is Anjenga. Near the shore the land here is low and woody, and the water bad. Next to this is the Dutch settlement of Cochin, so remarkable for the swelled legs of its inhabitants, which, though a deformity, does not seem to affect them as a disease, and has been ascribed to the impurities of the water in that country, as a proof of which the Europeans residing long here acquire the same tumefied state of the lower extremities with the natives.

Leaving Cochin, and proceeding to the English factory of Calicut, the country is beautifully diversified with rising hills and mountains. The fort and town of Tellicherry affords also a fine healthy and plentiful situation.

The Portuguese city of Goa, though not equal is still tolerably healthy, and the unfavourable accounts of it formerly are to be attributed more to

improper treatment under disease than to any other cause.

The island of Bombay, though of itself lower and inhabited by the Gentoos, who use no animal food, is plentifully supplied in this article for the European inhabitants from Surat. The population here is very great, from the desire of the natives to have the protection of the English government. The town and fort, from being built on a dry situation, may be considered as one of our most healthy possessions.

The city of Surat, the next settlement, is rather inland, lying fifteen miles up the country; it is large and spacious, and at the same time pretty healthy.

On the whole, the coast of Malabar is temperate and salubrious, if we form a comparison of it with the other parts of India. It enjoys, for upwards of six months, cool, refreshing, land and sea breezes, which, commencing in October, continue to the end of March; but as soon as the south-west monsoon sets in, these healthy breezes become uncertain, and often disappear. On the coast the dry season is from October to April, and the rainy season occupies the remaining months.

The diseases of the wet season are fevers and fluxes, particularly the latter, though they are never here so fatal as at Bengal, Batavia, and other unhealthy settlements. Cholera is a frequent disease

at Bombay, and on the coast the Barbierp is more common than in any other part of India.

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COROMANDEL COAST.

This being the state of the Malabar coast, I shall next examine that of Coromandel. The northern part of it is little frequented by Europeans till we reach the Dutch factory of Negapatam, which abounds with plenty of all kinds, and is not far distant from the English settlement of Tranquebar. Before this possession the first settlement of the latter was fort St. David's, now a ruin, and giving place as a residence to the pleasant village of Cuddalore, about three miles to the southward of the fort. The only English Presidency on this coast is Madras, the fort of which is strong and well built, having to the northward a pleasant village called the Black Town, the promiscuous residence of both the Europeans and natives. It stands on a dry, flat, and pleasant country; and St. Thomas Mount, eight miles farther, is the Montpelier of this country, from its pure and healthy air. There are also European settlements both at Masulipatam and Vizagapatam.

The soil here on the coast is for a mile or two dry and sandy. On going more inland, the country is diversified with hills and verdant pastures: indeed,

the whole Carnatic is represented as uncommonly pleasant and fertile, and even in the warmer months so healthy is the air as to admit considerable exercise being taken without over-fatigue, which is not the case at Madras, where the mid-day is generally insupportable.

The atmosphere on this coast undergoes considerable alteration at different times of the year. From January to March the weather is temperate and fair, but from May to the end of July it becomes insufferably hot, in consequence of the land winds passing over extensive tracts of sand. So violent are these winds at times as to cover the air with dust, and blow hurricanes, which are however of short duration, and terminate with the rain in October.

The land winds here generally blow from midnight to noon, and are succeeded by refreshing sea breezes, which continue till nine or ten at night, and frequently the whole night. By these means the effects of too hot an atmosphere are prevented, which, if protracted for any length of time, would be the source of baneful diseases; nor are these suffocating winds at the same time constant, and refreshing sea breezes are sure to occur regularly in the hot months. The north-east monsoon, the forerunner of the wet season, commences in October and terminates in March, but the rain seldom lasts longer than December; while, from there being no evaporation for the rain as it falls, is constantly ab-

sorbed by the dry sandy soil; this period of the season forms the most healthy part of the year. Thus the situation of the Coromandel coast cannot fail to be healthy, and the only complaints which distress the inhabitants seem to be bilious affections, from a large secretion of that fluid which gives them so little trouble, that they generally manage themselves without any professional assistance, though, with new settlers, these disorders are often uncommonly severe and fatal. Hepatitis is also a frequent disease of the Europeans, particularly the soldiers, who are exposed to much fatigue, as well as fever and fluxes. But still, with all these inconveniences, the coast of Coromandel may be termed the most healthy of all our settlements; and though the diseases that attack here are essentially the same as on the other parts of the Indian coast, yet they are milder in their nature and seldom epidemic. This situation, however, is found not favourable to the health of the European fair, who emigrate from Europe. The bloom of the northern atmosphere is soon exchanged for a sickly paleness and languor, the effect of the excessive heats, and the diseases peculiar to the sex, are here frequent and distressing. The southern parts of India are so subject to distressing heats, that they would be insupportable without the periodical returns of the monsoons.

ACCOUNT OF BENGAL.

But the most important part of the British empire in India is Bengal, a kingdom so extensive as to pass through several latitudes; and the soil and climate accordingly vary in different parts of it. In some places the soil being rich and the air temperate and healthy, while in the provinces towards the mouth of the Ganges, the ground being marshy, the situation is very unhealthy; the country is also flat and covered with wood.

The capital of Bengal is Calcutta, a rich populous city, being about one hundred miles from the mouth of the river Bulguttie. It presents a beautiful and spacious appearance of the houses, which are constructed with every regard to coolness and health. Besides the city the natives live in streets usually called Compounds, in small huts closely situated, and only defended from the weather by mats. About a mile down the river is situated the fort, in low marshy ground, the barracks of which are very cool and roomy, and even elegant. The country is cleared for many miles round the fort, but in the rainy season is very cold and damp.

The southern neighbourhood of Calcutta is rendered very unhealthy by an extensive lake, which, communicating with the Ganges, overflows at times, and then on retiring leaves a collection of slime,

dead fish, and other matter, to be acted upon by the sun, from which the most noxious exhalations arise. The land, also, to the northward is equally unhealthy by being low and swampy, and, as far as the eye extends, the country presents one uniform flat appearance. Culpee, a short distance from Calcutta, is the station for the ships. The beach is here muddy. The tides run high, and the land is every where uncultivated and shrubby, giving shelter to wild beasts. The village of Culpee is situated on a creek, about a mile up the river on low marshy ground; so that no situation can present in a warm climate a more unhealthy aspect than Calcutta and its environs.

The other situations for ships here are Conperee and Tupelee. The first of these being a village situated on a wide extended plain, tolerably dry and free from wood, is healthy compared with Culpee.

Tupelee is also tolerably situated; and the sickly season being over before the ships drop down here, the crews generally enjoy good health, and those who have been ill rapidly recover.

In Bengal the rainy season sets in in January, and continues till October. During that disagreeable period not a day passes without deluges of rain, accompanied with thunder and lightning. In August and September the air is moist, intolerably hot and stifling; for there is not here a succession of land and sea breezes as in other parts of India.

The dry and hot period of the season is from April till June, and in particular May and June, are hot months with warm winds, not tempered by showers, unless a storm takes place. When the latter happens torrents of rain descend, which cool the air; and even in this unwholesome country, from the rain not being stagnant, it conduces to health and to prevent diseases. From the end of December to March is the cool season at Calcutta, and during this period there is not in the whole world a more delightful place to reside in.

Such being, in general, the state of this part of British India, it is not at all surprising it should be visited by great and fatal diseases; for it possesses every requisite to produce them—a low marshy soil, joined with excessive heat and wet, and no breeze to fan the atmosphere.

The intermittent fever and dysentery, the epidemics of the wet season, continue from August to November, the first period of the epidemic is the most fatal, when it kills in twenty-four hours, and rarely exceeds the fourth day. It remits usually in August, and still more in the progress of the succeeding months; but the patient, recovering from fever, is often apt to be seized with flux or dysentery, which is equally frequent, and thus to be carried off by it. Fever is always most fatal to the new comers. During this sickly season so rapid is the progress of mortality, that a person attending a patient to-day will himself be numbered with the dead by to-morrow, or will leave a friend

in perfect health at night and not survive the following day.

The cool season puts an end to this severe conflict of mortality. From December to March no prevailing diseases make their appearance. What are met with are the consequences merely of the sickly season, and the only complaints of the Europeans are cholera and diarrhœa.

The eastern coast of the Bay of Bengal next claims attention. From the mouth of the Ganges to Changoing it presents a low appearance. It is healthier, however, than Calcutta; though all Europeans residing on the coast of Araacan are subject to fevers and fluxes, which are most frequent during and after the rains.

The coasts of Nepee and Tenessarries, though only frequented by country vessels, are known to be equally unhealthy as Bengal, and are visited by the same diseases, and enjoy the same state of weather. The islands of the Neprais, along the coast of Nepee, are low and covered with woods, from which there are great exhalations, and consequently they must be sickly in a great degree. The Malay coast is little known, but shews an aspect equally unfavourable. Malaeca, belonging to the Dutch, is a healthy and pleasant settlement; the town and fort standing on an elevated situation. The atmosphere is here refreshed by land and sea breezes: the lands also in the neighbourhood are well cultivated, and it forms one of the most desirable European possessions in India.

Batavia is the principal Dutch settlement in India. It is situated in a large open bay, on the north side of Java. The city is laid out in the Dutch taste, with numerous plantations and canals, which render it peculiarly unhealthy. The inland country is hilly, and therefore more salubrious, and even the air is temperate from May to November.

From November to May is the rainy season when fevers and dysentery rage with great fatality, and every European vessel that touches here is sure to suffer severely from the effects of the climate. This was particularly felt by Captain Cook; and a number of the East Indiamen, who have been obliged occasionally to put in here, give information of the same fact, and have buried not a few of their crew during the short period of their visit.

The lands on the shore of Sumatra are low, and covered with thick trees and underwood; and the part of it under the line is subject to rains. In such a situation, from the intense heat noisome fogs arise, which taint the air and prove fatal to settlers. Even in the more favourable situations of this island, on the south-west, the grounds are covered with weeds and long grass, attracting moisture, and producing the seeds of disease.

North Island, in the beginning of the Straits of Sunda, is a place where the homeward-bound Indiamen wood and water. Though it presents at a distance a finely variegated appearance, yet at the watering-place it is covered with impenetrable man-

groves, and infested with a variety of insects. Hence any stay on shore, if the person sleep, is sure to be followed by an attack of a remittent, which occurred in the case of some Danish Indianmen, part of whose crews tarried for a day or two on land.

Bencoolen, by the change adopted of leaving the old town and preferring a closer and more elevated situation near Fort Marlborough, is every day becoming more healthy, and on the whole it may be observed of the island of Sumatra, that its unhealthiness is more owing to real want of culture than any other cause. The soil on the north-east end is highly luxuriant, and diversified with high grounds, hills, and mountains.

The large island of Borneo, where uncultivated, resembles Sumatra in every respect of climate and disease; and the same may be said of the Celebes, and of the Molucca or Spice Islands.

Manilla, the Spanish settlement on the chief of the Philippines, though in general a healthy and agreeable residence, has its sickly season in June and July. At this time the heat of the sun is intense, and the humidity of the air great, which occasions noxious exhalations, producing fevers and fluxes, and carrying off annually a great number of the inhabitants. But, in general, the air here is temperate, the fields covered with perpetual verdure, and the hills variegated with all kinds of tropical fruit.

Before leaving this general view of the Indian coast frequented by Europeans, those parts of China visited by them also fall to be noticed.

The chief of them is Canton, a city on the river of that name. The station appointed for the ships is generally at a village named Wampoo, fifteen miles down the river. Though the land is here low and marshy, from bogs overflowed regularly by the tide, it is not unhealthy ; and the French and Danish Islands, formed by the intersection of the river on the opposite side, present a high and salubrious situation. The city of Canton itself stands on a wide extended plain, but from its damp soil is by no means healthy, particularly at the factories of the different nations, where the supercargoes reside. When the business is finished, it is common for them to retire to the island of Macao, a Portuguese settlement, which, though hot, is pretty free from disease, and well supplied by the Chinese with every necessary.

The port of Canton itself possesses all the inconveniences of every sultry climate. Florid health is here a stranger to the countenance ; the constitution is weak and inflated, and those residing here as well as the transient visitors are subject to fevers and fluxes, and the other diseases, the consequence of too great relaxation. Still it is a valuable port for the Indiamen, for here refreshments are procured superior to what is met with in any other part of the voyage.

HOMEWARD VOYAGE.

The voyage homeward is seldom commenced with the same health of the crew as when they leave the British shore. Such of them as have suffered in the sickly season are as yet seldom fit for duty, and their recovery is often retarded by the low diet on which they are obliged to live, particularly at Bengal. The sailors' food here consists of cow beef, affording little nourishment, and the pork which makes a considerable part of their diet is very bad. Greens and other vegetables are neither plentiful, nor at a cheap rate, so as to form a part of the ship's provisions. The only vegetables to which they have free access are yams and rice.

The weather, during this period of the voyage, is hot and sultry, occasionally attended with calms, and at other times tempestuous. The remittent is generally the disease that makes its appearance and sometimes it is attended with strong marks of putrefaction. This uncertain state of the weather generally continues till the Equator is past, when the trade wind becomes steady, and the weather gradually, as the vessel gets on, is experienced more temperate. In the latitude of the Cape of Good Hope it is often tempestuous, cold, and wet; passing that it becomes pleasant and warm, and the air is cooled agreeably by refreshing showers.

The first land generally made in the homeward course is the island of St. Helena.

This island appearing at a distance like a stupendous rock, lies in the middle of an immense ocean, in a track where the south-east trade wind seldom intermits. Hence the climate is serene, temperate, and pleasant, and through the whole year neither subject to the extremes of heat nor cold. At first sight this settlement presents a barren appearance, but on entering the country the aspect is changed, and the eye is transported with scenes and landscapes highly romantic; as good pastures, verdant vales, and high irregular precipices. The soil in the vallies is rich and deep, but prevented from being productive by rats and mice, that destroy the seed as soon as committed to it. The chief production here is a species of yam, which when boiled, and afterwards toasted, to deprive it of a somewhat poisonous quality it possesses, forms a bread superior to any in Europe, and is even preferred to it. As soon as a ship touches here the inhabitants flock from the country to the town, generally to receive and entertain the officers, for they all keep lodging-houses, and supply them with every refreshment and luxury they can desire. But this agreeable reception is not generally the lot of the sailor, who can hardly, at so plentiful a resting-place, get a supply of any vegetables but a little purslain gathered from the rocks. By a little attention on the part of the East India company

this defect might be easily obviated, and an abundant supply raised for the crews of every vessel touching at the island, which would prevent the attack of scurvy on the voyage home.

Leaving St. Helena the trade wind continues to accelerate the progress of the vessel, and unless when near the Equator there is no disturbance from variable winds or occasional calms. At this period a number of the crew are apt to be affected with bilious complaints, and fevers arising from a bilious cause.

In the further course of the voyage, on getting into the colder latitudes, scurvy is also apt to make its appearance; but it is seldom found very general. In fact, the remainder of the course is made up of variations of weather, and the common occurrences that attend every voyage at sea, which possess little interest till the ship reaches the Downs, previous to which period, colds, rheumatism, and pectoral complaints, sometimes sore throats are frequent, and confine a great many of the crew in the same manner as they were affected on first leaving the British shore, but their residence in a warm climate renders them now more prone to such attacks, to avoid which every precaution should be taken, by warm clothing, short watches, and whatever can conduce to the comfort of the men.

DISEASES ON THE VOYAGE.

THE Voyage to India is one of considerable duration, and extends, according to circumstances, from five to eleven months, sometimes on a coasting voyage to two years. In the course of it a variety of climates we have seen are encountered, which subject seamen to a number of diseases, different in their nature and treatment. In the track down Channel, the most frequent complaints are, fever of the catarrhal kind, affections of the chest, and rheumatism, all the consequence of what is commonly termed catching cold.

CATARRH AND COLDS.

Catarrh or cold at sea is generally milder than on land; but as it occurs in men who are of a vigorous and robust constitution, it requires, more active remedies than on shore. If the inflammatory symptoms appear urgent, bleeding will here be necessary, and it may be freely employed, as lowering the system in the progress of the voyage is always

of advantage to Europeans previous to their arrival in India. This may be succeeded by the use of mild antimonials, according to the form in the Dispensatory, No. 1. Diluent pectorals joined here will allay the cough, and other symptoms of irritation; and if not sufficient, an occasional opiate, as in No. 23 of the Dispensatory, may be employed. Should this treatment not be sufficient, and fixed local pain in the throat or chest prevail, a blister will be found of much benefit; and by persisting in this plan till the patient arrive in a warmer latitude, the disease will then yield to the genial influence of the climate.

PECTORAL COMPLAINTS.

The affections of the chest differ little in their treatment from the catarrh, except in there being a necessity for oftener employing bleeding than in the former complaint, where the fixed stitches in the side are violent and permanent, and for the application of blisters more largely, and repeating these according to the urgency of symptoms.

RHEUMATISM.

Rheumatism is a frequent disease of seamen in the voyage, and is generally acute when it attacks

them on first leaving shore. In this case it is accompanied with fever, and bleeding is a necessary part of the treatment. The patient should here be confined to a cooling regimen, and a free use of diluent liquors enjoined; and these should be accompanied with small doses of antimonials, either in the form of emetic tartar or antimonial wine, as marked in the Dispensatory, No. 22. When the pains of the joints are very severe, and particularly fixed, blisters will be of great use, and produce a termination of the complaint. These diseases, however, all give way so soon as the ship gets into a warmer latitude, though rheumatism is even then apt to remain, and pass into a chronic state. In such cases, the rubbing mercurial ointment on the part will be found to remove the affection, or the liniment of the Dispensatory, No. 30.

REMITTENT FEVER.

Such are the varieties of disease till the ship arrive in a more southern climate, when these complaints yield to the attack of fevers of the remittent kind. The most common form of this fever is ushered in with slight shivering, bitter taste in the mouth, head-ach, pain above the eye-brows, sickness, vomiting, and sometimes a purging of gall succeeds. The pulse is at first very quick but soft, the countenance flushed, the skin very hot, and the

thirst intense. The remissions are always more or less, and even in the most continued form the exacerbations are distinct at night. When not neglected in the commencement, this form of fever generally admits an easy cure. The first step is to clear the stomach and bowels by small doses of antimonials, and the tartar emetic is the preparation preferred, as in the Dispensatory, No. 42. The effect of this practice is often to remove the disease entirely in a few hours; but if it should not, the bark is to be given so soon as a sensible remission takes place, which always effects a cure. In no instance is bleeding here advisable, as the malady is often accompanied from the first with great prostration of strength and depression of mind. Here bark and wine are the remedies to be depended on, without regard to any remission of the disease; as in No. 7, 8, 9, and 10 of the Dispensatory, making the choice according to circumstances.

TYPHUS OR LOW FEVER.

In the farther progress of the voyage, the remittent form of fever often gives place to those of a more continued type, or the typhoid species. Here the febrile symptoms are attended with delirium, low pulse, petechiæ or purple spots, vibices, and hemorrhage from the nose, and other parts. Remov-

ing the sick from the rest of the crew is, in such cases, to be rigidly observed, in order to prevent the spreading of infection; and the treatment of the fever itself is to be trusted to a cool regimen, free ventilation, and the use of bark and wine, according to circumstances, as in the former disease.

BILIOUS AFFECTIONS.

As the vessel advances farther in the warm latitudes, bilious affections begin to attack the crew, and the mildest form in which these begin is that of bilious cholic.

Its first symptoms are sickness, often a vomiting, and always a purging of bilious matter, accompanied with fixed or flying pains in the bowels. For the first and second days the stools are copious and bilious; but in the end it terminates in gripes and ineffectual straining. In some cases, this complaint begins as a real cholera, or dry belly-ach, and when severe it often terminates as a dysentery.

Much depends on attention to these complaints at their commencement. Nature must be assisted in expelling the increased quantity of bile, the prevailing source of irritation, while the pain at the same time must be allayed, and the patient enabled to bear the inconvenience till a cure is effected. Mild saline purgatives are here indicated

in the first instance, as a solution of Glauber or Epsom salts, (as in No. 5 of the Dispensatory), and the occasional interposition of an opiate. This plan of alternating them or of combining them in one by the junction of calomel and opium in the form of pills, is, perhaps, preferable (as in No. 4.) If the patient is weakened by the complaint, the recovery may be completed by the decoction of the bark or columbo, with the addition of a small quantity of sulphuric acid, as in No. 11 and 27 of the Dispensatory.

DIARRHŒA.

Besides these bilious affections diarrhœa sometimes comes on of a different nature, shewing somewhat of a colliquative tendency. It is marked by thin copious stools, without pain, gripes, or tenesmus. In twenty-four hours the patient is reduced to the greatest degree of weakness, with a pale ghastly countenance. The indications here are first, to clear the stomach of any offending matter by a gentle emetic (as in 18 of the Dispensatory), and afterwards the bowels by magnesia and rhubarb. The profuse discharge must then be restrained by opium, and the strength supported in the mean time by animal broths and wine. In order to recover the tone of the bowels, the bark may

then be given in cold infusion or decoction, till the stomach is able to bear it in substance, which will ensure a complete recovery. For the forms of which see the prescriptions for in No. 7 and 8.

PRICKLY HEAT.

As the ship approaches near the Equator, this is a disease that generally makes its appearance among the crew. It consists of an eruption of numerous pimples, or red spots breaking out in various parts of the body, occasioning an intolerable itching. Interspersed with the eruption, especially upon the hands, there appear frequently small eminences, white tubercles or webs, resembling the stings of nettles, which greatly add to the itching, and are increased by scratching. This affection is not attended with any degree of fever, and is reckoned according to common opinion rather of a salutary tendency. It generally yields in its treatment to cool air, a spare diet, and the use of gentle laxatives of the sub-acid kind, as denoted in No. 5 and 6 of the Dispensatory. Its continuance is marked by no inconvenience except itching, and this, after a certain time, ceases to give any trouble; the only uneasiness arises from its retrocession or sudden disappearance, when sickness and fever take place. Hence any exposure to cold air, the use of the cold

bath, and whatever can tend to check the discharge by the surface must be avoided.

COUP DE SOLEIL, OR STROKE OF THE SUN.

This is a species of apoplexy, which frequently occurs in warm climates where men are exposed to much fatigue, or get intoxicated and carelessly expose themselves by lying down on deck. It first begins with great head-ach, thirst, and sometimes difficult breathing, which are soon succeeded by vertigo and bilious vomiting. The patient then drops down breathless, turns comatose, and unless immediate assistance is given the face swells and turns almost black. The pulse, at first full and quick, soon sinks, and after a few faint struggles for breath, the unhappy victim expires.

The means to be employed here require to be instantaneously had recourse to. The body should be removed to a cool situation under a shade, and the air cooled by fanning it round the body; blood should be freely drawn from the jugular vein or temporal artery. Cold water, rendered even artificially so, should also be given to drink, and the face, head, and hands bathed with it, and it should be even injected into the intestines. The lungs should also be artificially assisted in their functions by blowing into them, and when the patient is

somewhat recovered, small doses of tartarized antimony should be administered to remove the bilious accumulation with which the bowels seem to abound, see No. 2 of the Dispensatory.

SCURVY.

The ravages of this disease at sea have been compared to be in an equal proportion with those of dysentery on land, but within these few years the nature of the malady has been so well understood, and the treatment *specifically* ascertained, that it is no longer that formidable disease it once appeared, when whole fleets were rendered useless and suspended in their operations by its attack. This disease consists in a general disposition of the body to putrefaction, or a want of cohesion of fibre, from a deficient supply of fresh vegetable matter, which gives tone and firmness to the solid. It is accordingly not of a contagious nature, and more frequently appears in a cold than a warm climate. Its leading characteristic is extreme debility, marked by the pale bloated appearance of the complexion, by livid spots on the skin, by the spongy state of the gums, with tendency to hemorrhage, by the offensive breath, swelling of the legs, and by the putrid ulcerations which break out in different parts of the body. The excretions of the urine and stools

are here also highly offensive, and the pulse betrays every symptom of weakness, being small, frequent, and towards the end of the disease intermitting. No disease presents such a horrid picture as this in its last stage. The joints become swelled and stiffened—the muscles rigid and unable to act—general emaciation of the whole body takes place—blood is profusely poured from every part, and the patient falls a victim at last to the attack of violent diarrhœa or dysentery.

Death at the same time is generally sudden, and when not looked for : often at the time of making some exertion.

The real cause of scurvy we have stated to be a defect of vegetable matter, and this cause may be assisted by whatever tends to increase the peculiar weakness of the system arising from this source, as confinement in one place—want of exercise or indolence—depressing passions, as fear, despondency, &c.—want of cleanliness, &c. Salted provisions seem no further a cause than by supplying a matter deprived of its nourishing powers, and unfit to be used as aliment.

A fresh vegetable diet is the true cure of this disease, and where this cannot be procured, the citric acid, or the acid of lemons and oranges, and other sub-acid meats, affords a certain substitute for this same thing, which a supply of fresh vegetables imparts to the animal fibre. Where they cannot be had, the essence of spruce and malt have

been of service, or what is preferable, nitre dissolved in vinegar, in the proportion of an ounce of the former to a quart of the latter. The same advantage will be found in the use of diluted nitric acid, as a drink, and even taken in ten or fifteen drops at a time as a medicine. The tonic powers of the sulphuric acid, the Peruvian bark, and the red sulphate of iron, are highly useful in this malady, (as in No. 38 and 39) where the real specific cannot be obtained, and the disease has gained its alternate progress.

The symptom of bleeding when profuse, will yield to the application of styptics, as a solution of alum dipt in dossils of lint. The ulcers will be best drest with equal parts of lemon juice and tincture of myrrh.

In that state of body which constitutes scurvy, nothing marks so strongly the influence of the mind over the body, as the power of the depressing passions in exciting and aggravating the disease. This fact is strongly exemplified in the relation of Lord Anson's voyage, where the disease appeared and disappeared in an exact proportion as the causes of hope or despondency were most predominant with the crew, and the remarkable instance which occurred at the siege of Buda, and which I have stated in another publication, gives a strong confirmation of the same fact. To the same principle I have attributed, in many instances, the success of the remedy of the quack over the regular

practitioner, whose bold pretensions elate the mind of the patient, and impress with the infallibility of his nostrum, and the certainty of a cure. It would therefore be proper, even in regular practitioners, to speak often with a confidence and decision to timorous patients on the powers of medicine, which, by elating them with strong hopes, and even conviction of their cure, may render the influence of the mind a corresponding agent with the remedies employed.

Besides these affections, which constitute real diseases, a first voyage to sea is often attended with certain distressing feelings, and even a state of body which occasions what may be termed serious indispositions. This is the consequence of Sea Sickness, and also occasionally of costiveness.

SEA SICKNESS

Consists in a heavy, uneasy load, or oppression at the stomach, with constant nausea or tendency to vomit, and this takes place also occasionally. The duration of this sensation varies with different persons. With some it continues only for a day or two on their first going to sea, with others it remains without abatement for the whole voyage. Elderly persons, and those of a dark complexion, suffer less from it than the young and sanguine.

Its long continuance often induces fever, with head-ache, intense thirst, and inability to retain any thing on the stomach, and along with these symptoms, when the pulse feels small and quick, there is often much danger and difficulty in removing the complaint. But while this state is so unfavourable to those in health, it proves often, on the contrary, a means of cure to the invalid and diseased.

Thus asthma and consumption experience certain relief from this remedy.

The cure of sea sickness has been attempted by various means. By small draughts of sea water, to keep the bowels in a soluble state, this symptom has been much abated. The same advantage has attended the use of nitrous æther, applied to the temples and nostrils, and also taken internally in a teaspoonful diluted in a glassful of water. The food should be taken in small quantity, and the same observed in regard to the drink, which should be all strongly acidulated, or contain a quantity of fixed air. The time should be spent as much as possible in the air or on deck. Sloth and inactivity should be avoided, and the indulgence of pleasant emotions cherished.

COSTIVENESS.

Costiveness at sea is a disagreeable complaint, and is apt to increase the former. It arises from

the greater determination of fluids to the surface than the bowels, which the constant state of motion produces, and it is increased by the less digestible diet which a long voyage renders necessary to be used. It should never be allowed to rise to any great height, for it is then apt to produce heat, fever, and a variety of distressing feelings. The method generally resorted to at sea is to cause the patient to drink daily so much sea-water, to the extent of half a pint in divided doses, and the effect of this is generally to produce, on continuing it, a regular state of bowels, and takes off even the sickness and want of appetite, with which it is commonly attended. But where this remedy is disliked, mild laxatives will equally answer the purpose, as the castor oil, or the saline purges. The complaint is generally confined to the first part of the voyage, and goes off as the person becomes accustomed to the nature of a sea life.

Such are the diseases that almost uniformly and regularly occur in the progress of a voyage to India. Though few in number, and not in general fatal, it is proper their nature and treatment should be well understood.

I have examined with much care the journals of the surgeons at the India-house for a number of years, and it is astonishing what uniformity they are found to observe. The same thing was done by Dr. Clarke for a period of seventy-five years, in order to ascertain the mortality in fevers, and he

has occasion to concur in the same observation, of the uniformity that marks them, both in a voyage to India, and also homeward. In the former case however their number is always fewer. In the latter, the bilious constitution, acquired in this climate, renders the seamen more liable to disease.

PREVENTION OF DISEASES IN THE VOYAGE.

But though the diseases in a voyage to India are few, and not in general fatal, yet means of prevention should not be omitted, which may either prevent their appearance at all or lessen their danger. Experience has shewn that such means have proved completely effectual in the hands of a Cooke, and his successor in voyages of very lengthened duration, by which not even a man fell a victim to disease. The example of such benefactors of mankind ought to be closely imitated, and the principle adopted by them consisted chiefly in the regulation of the diet of their crew. The great point in a long voyage is to avoid, as much as possible, the necessity for the use of salted food, to have a supply of wholesome water, and to preserve the biscuit or farinaceous aliment from becoming mouldy and generating insects. The quantity of salted meat may be lessened by giving tea and sugar for breakfast, or if this is too expensive, a decoction of wheat may be used cleared of its husks, and prepared for

keeping as barley. This decoction being sweetened with sugar, may be rendered agreeable by adding to it the proportion of spirits allowed to each man. But if this alteration of diet is not relished by the crew, then an attempt is to be made to correct the morbid tendency of the salted food by the use of antiseptics. The most powerful are the juice of lemons and oranges, which should be procured wherever an opportunity offers, and by being mixed with a quarter of spirits, will keep for any length of time. An allowance of this should regularly be served out to every man, and made into punch, which will be preferable to the spirits commonly given out. Sour crout is also a powerful corrector of a salted diet, and may be either eat along with it, or mixed with pease soup or other broths.

An abundant supply of fresh water is a point of the first importance at sea, and as this supply depends on circumstances, and is casual, every means should be employed to preserve it fresh and wholesome. The means that have been hitherto employed is chiefly by ventilation. The operation is now completely performed by the machine invented by Lieutenant Ostridge, which exposes every part of the fluid freely to the air. When this is done, it may be still further purified, by making it undergo the process of fermentation, and converting as much of it as is necessary into a fermented liquor or beer, with porter and sugar, spruce, or molasses. Thus a tartar ale or spruce and common beer may

be all had at a small expence, the former of which is particularly wholesome in tropical climates.

The biscuit or farinaceous aliment, when taken on board, should be packed in dry casks, and if it is likely to become moist it should have a cord of the oven. Indeed by taking flour to sea, which is by no means a bulky article, fresh bread may be occasionally baked, for an artificial yeast is easily made by beating up flour and water in equal proportions, and adding to it an eighth or tenth part of porter. On covering up this mixture a few hours' fermentation will take place, and the fluid be fit to be mixed with flour, and formed into loaves for use, which need never be wanting, as there is always a baker on board.

Besides this salutary regulation of diet, in case of a protracted navigation in India, the ship should be always supplied with these articles, namely, cordials, particularly wine for the use of the sick, to which may be added, portable soup, sago, sugar, spices, and some dried fruits.

Next to the regulation of diet, cleanliness and temperature are the great points for the preservation of health at sea. In regard to the first, washing and purifying the ship between decks, and admitting fresh air, both in mild and tempestuous weather, are well understood by the officers. The same may be said of scrubbing and washing the decks, cleaning out the births, which are under proper regulations, and the first thing attended to

by an intelligent officer. Nor in moist weather, and when the crew is most apt to be affected with sickness, is the regulation of their time and also their dress less a matter of observation and concern to their superiors, so that the body may be at all times kept dry and warm. The dress should be such as to keep out moisture, which is the great source of disease, and each seaman should be furnished with a great coat for this purpose, whatever his other parts of dress may be. It has been remarked, that those who are best clothed generally resist longest the scurvy and other maladies where they attack a crew. In the regulation of time the men should be divided into three watches, which gives them in stormy weather sufficient leisure to dry themselves, and the effects of the storm should be carefully prevented by removing the hammocks and chests to be dried on deck, and placing stores between decks for the same important purpose.

SPECIAL PREVENTION OF FEVERS.

But besides these general means of preventing disease, where there is an appearance of fever breaking out, some special ones require to be put in practice. All fevers are of an infectious nature, whatever the peculiar source from which they proceed, and the first appearance of fever on board a ship requires immediate attention to prevent its

further communication. The patient should accordingly be separated from the rest of the crew, and conveyed to the most airy part of the vessel. Cleanliness and ventilation ought to be put in practice with the most scrupulous attention. The linen of the patient ought to be frequently changed, and every thing coming from him should be received in a bucket containing sea-water, immediately covered, and thrown overboard. With these regulations the bark should be freely and liberally given to subdue the fever as speedily as possible, and prevent its malignity. This conjoined treatment is absolutely necessary, and the neglect of the bark will often render the former precautions nugatory.

DANGER OF ANCHORING PLACES.

In the progress of an East India voyage, the very places at which the ships occasionally touch prove the source of introducing amongst the crew fatal disease, and where they look for health and refreshment on making land, the contrary often takes place, from the noxious exhalations with which these watering-places abound. To prevent their effects, the ships should always anchor so far from a swampy shore as to be without their influence. The crew should only be permitted to go on shore in the day-time, and none of them al-

lowed to sleep on shore when the night-dews descend.

Where disease has broken out, if only the scurvy, and not of a contagious nature, it may be cured while the ship is in the harbour; but in case of contagious disease, especially fever, then sick tents must be pitched on shore on a dry spot, open to the healthful influence of the sea breeze. A fire should be kept in the night-time in each tent. The patients should lie in hammocks suspended from the ground, and a strict guard observed that none of them be allowed to stray abroad at night.

When it is necessary to send part of the crew to wood and water, no work should be begun before the fogs are dispelled by the sun, and it should be given over before the evening dew comes on. The men should also be plentifully supplied with bark as a febrifuge, and a dose of the compound tincture given every morning before they begin.

The ships lying in the rivers, both at Canton and Calcutta, are much exposed to damps and fogs. The effects of these should be avoided as much as possible by keeping the men on board, and where there is occasion to send them in boats on business, they should be well clothed, and not allowed to row too near a muddy shore, or anchor in an ill ventilated creek.

In the course of the voyage also, as it is unavoidable to sail near the unwholesome shores of Sumatra or Java, or to anchor at Bencoolen or Batavia,

it is indispensably necessary to guard the body against the pernicious effects of fogs and night air, and this will be best done by giving to every seaman a glass of Huxham's tincture of bark morning and evening.

REGULATIONS OF LAND TROOPS ON THE VOYAGE.

But besides the regular crew of the East India ships, the service of the Honourable Company, as well as the interests of government, require the former sending recruits, and the latter regular troops, for the possessions in India. In order that they may arrive in health, which is of the first consequence, certain precautions ought to be observed in carrying them out, so that they may bear the voyage as easily as possible.

The first regulation is to embark them at a fit time, that they may arrive in India at the healthiest period of the season.

The second circumstance is not to put them aboard till the ship is just about to sail. This subjects them to no unnecessary confinement, and also prevents their lying without a proper hammoek or bed on any thing they can get, which generates dirtiness, and not unfrequently from their being jaded and worn out, the seeds of infection, which soon break out.

The third circumstance is, that they have a proper supply of dress, both flannel and linen; the former to be worn in the early part of the voyage, the latter when getting into the warm climates.

The fourth circumstance is to place them under the regulation of their own officers, who will commit the charge to a serjeant, rendered responsible for their regularity in every particular respecting their living, clothes, cleanliness, births and hammocks.

Fifth circumstance to be attended to is, that they should be enjoined a certain discipline in the way of exercise, either by doing duty in the ship, or going through some part of military tactics. This however should be confined to fair weather, for they should never be exposed to moisture, the ill effects of which would counterbalance all the advantage from the exercise.

The prevention of diseases any farther, will here admit the same regulations as with the ship's crew. But on their arrival in India they should be immediately quartered in barracks, which will prevent their falling into irregularities, and either strolling out or experiencing the injuries of night air.

Till accustomed to the climate, the officers should be careful of exposing them to fatigue in the heat of the sun, particularly at mid-day; but when once inured to the climate they will be able to bear every hardship.

SURGEONS' JOURNAL.

It is ordered by the Honourable East India Company, that a journal should be kept by the surgeons of each ship, containing as it were, a medical history of the voyage, and this journal must be deposited at the India House before the surgeon can receive his pay. No regulation can be more proper or necessary than this, and if only executed as it ought to be, it would render the treatment of diseases in the voyage both out and home, perfectly complete. The journal is ordered to be contained in two books, a day-book, and what may be termed a case-book. The first is intended to contain the names of the sick—the date of their application—the symptoms of their disease—the prescription and cause of each case, and it is divided into columns accordingly. If this book were accurately kept, such as it ought, by a strict injunction of the Company, and if even a penalty were annexed to the failure in it, the greatest advantage would result to the medical part of the service. But as it is considered at present too much a mere matter of form, attention is not in general paid to it, except by a few scientific officers in the service, to whom the cultivation of their profession is a pleasure and satisfaction. The case-book is intended to be an abstract of the day-book, and to contain in detail what the day-book relates, merely in the loose form of its occurrence at the moment. It is from this

second book, if properly kept, the improvement of the service would arise, and in order that this should be properly accomplished, and the duty of the surgeons performed so as not only to forward his own instruction, but also that of his successors, and the service in general; the statements of this book should be under the inspection of the captain during the voyage, who should see it is regularly kept as well as the day-book, and the transfers accurately made from the one into the other, with suitable comments by the surgeon on the cases, and the practice that he has employed. In this manner the best abilities of the surgeon would be exerted to carry it on, knowing it was to undergo a regular criticism from his commanding officer; and next, on his arrival, before depositing it in the India House, it ought to be examined by the inspecting physician of the Honourable Company, and receive his certificate of approbation or otherwise. Here an opportunity is offered for the physician giving his full tribute of applause to the conduct of the surgeon where merited, and of even recommending him in consequence to the attention of the Honourable Company.

By this second book then, containing an accurate monthly return of the diseases and practice, and a general abstract of the whole at the end of the voyage, it would be a source of reference to the surgeon himself every voyage; would shew him at once the proper treatment of the same disease on

its reappearance, and leave him nothing new to learn, except occasional peculiarities or deviations from their usual appearance in a few particular cases of disease. To the service in general the most important advantages would result from the journals being thus managed, for as justly observed by the late Dr. Clark, long a surgeon in the Honourable Company's service, "at proper periods a report ought to be published from them, at the expense of the Honourable Company, drawn up by their physician, with such other assistance as he may deem necessary, and copies presented to each surgeon in the service. By conducting the business in this manner, ingenious men would be stimulated to offer their observations, the treatment of diseases would attain to the highest possible perfection, and consequently an immense number of lives would be saved to the community."

After these observations we shall here insert a copy of the present form of journals.

DAY BOOK.

General Return of the Patients on board the Ship —, in a Voyage
to —, in 179 , and in her Return to England, in 179 .

DISEASES.	Number.	Cured.	Sent to the Hospital.	Died
CL. I. <i>Febrile Diseases</i>				
Remittent Fever	65	64	0	1
Intermittent Fever.....				
Continued Fever				
Hepatitis				
Dyseutery				
&c. &c.				
CL. II. <i>Nervous Diseases</i>				
Apoplexy				
Tetanus				
Cholic				
Cholera				
&c. &c.				
CL. III. <i>Cachectical Diseases</i> ..				
Dröpsy				
Venereal Infection				
Scurvy.....				
&c. &c.				
CL. IV. <i>Local Diseases</i>				
Suppression of Urine.....				
&c. &c.				
Total....				

DISEASES.	179 .												179 .												To- tal.
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.					
CL. I. <i>Febrile Diseases.</i>																									
Remittent Fever																									
Hepatitis																									
Dysentery																									
<i>See See.</i>																									
CL. II. <i>Nervous Diseases</i>																									
Apoplexy																									
Tetanus																									
Cholic																									
Cholera																									
<i>See See.</i>																									
CL. III. <i>Cachectical Diseases</i>																									
Dropsy																									
Venereal Infection ..																									
Scurvy																									
<i>See See.</i>																									
CL. IV. <i>Local Diseases</i>																									
Suppression of Urine																									
<i>See See.</i>																									
TOTAL.																									
LATITUDES.	N. 47.36	N. 43.44	S. 7	S. 27.59	S. 36.24	N. 3.39	N. 10.58	N. 1.44	N. 12.13	N. 12.49	Macao. 15.6	Macao. 15.6	Macao. 15.6	N. 20	S. 25.17	S. 35.47	S. 35.22	N. 25	N. 27.9	Chanel. 49.21					
	44.23	4.21	36.16	37.15	44	13.36	5.38	12.59	21.49								113.3	135.27							

But besides this proper performance of duty on the part of the surgeon, much assistance might be given him by an attention to the health of the seamen being made an indispensable injunction on the captain and officers, and that what regulations are thought necessary by him, they should at once see carried into effect. The means of preserving health being now so well understood, they should enter into the very regulations of discipline as much as any other part of duty, and be put into the instructions accordingly. The effects of this would be sensibly felt in the prevention of disease.

DISEASES IN INDIA.

THE diseases in India are much regulated in their appearance by the state of the weather, and are essentially different in a dry and in a moist season. In the former case they consist chiefly of bilious affections in the form of flux, cholera morbus or cholic; and also of the great and leading epidemic, inflammation of the liver or hepatitis:

In the latter they gave place to fevers and dysentery, differing in their extent of malignity in proportion to the degree of heat, the humidity of the atmosphere and the situation of the place, in favouring the ascent of noxious exhalations from the surface of the earth. Hence the most fatal of all the diseases are these two, particularly fevers, and they claim therefore a primary attention in the present arrangement.

DISEASES OF THE WET SEASON.

All fevers in their nature are strictly the same, and this is strongly confirmed by their passing in their progress from one form into another, but from

the difference observable in the leading train of their symptoms, they have been divided into three species of intermittent, remittent, and continued; a distinction essential to be made in regulating their treatment.

AGUE OR INTERMITTENT FEVER.

This form is by no means the most frequent in a warm climate. I have thus defined it in my Nosology—"Great increased general agitation, commencing with violent shivering, succeeded by great disengagement of caloric, and terminating in profuse perspiration." It attacks in paroxysms or fits, and according to the period of intermission or freedom from fever, it comes to be designated: thus it is termed a quotidian, where the fever rages every day; a tertian, where every other day; and a quartan, where this freedom continues for two days on a stretch. In a warm climate the periods of season are not so much considered in distinguishing it.

The fit or paroxysm of every intermittent fever is divided into three stages, regulated by the prevailing feelings of the patient during each of those periods, and are termed the cold, the hot, and the sweating stages. The first of these is generally of shorter duration in a warm than in a cold climate, and the hot stage is at all times the most severe of the whole.

Noxious exhalations from marshy grounds are, in all cases, the determined cause of this form of fever in every climate in which it appears, and a certain state of body is perhaps necessary to the action of the contagion. By the frequent recurrence of the fits mischief is sometimes done to the thoracic or abdominal viscera or the brain, and a morbid state of system is then produced favourable to the continuance of the disease.

The bark has been long known, and deservedly considered as the true specific for this disease, and the period of intermission is the time directed for its administration with safety and success. But this practice, however proper in Europe, does not suit the rapid progress of disease in a tropical climate, and Dr. Clark was the first who directed it should be given at every period without regard to this supposed salutary restriction; from the shortness of the intermission in many instances, not permitting the exhibition of the remedy in due quantity, and from the continuance of the paroxysms always greatly injuring the health and constitution.

As soon then as the stomach and bowels are fully cleared by an antimonial emetic (as in No. 1), two hours before the attack of the fit the bark is to be given in a dose of two drachms. On the accession of the cold fit an opiate is to be exhibited (as in No. 23), and when the sweating stage appears the bark is to be repeated in the same dose as before.

By this management in preceding the paroxysm every advantage is gained, the medicine is easily retained on the stomach, and half the quantity only is necessary to the cure of the disease, than if entirely swallowed during the intermission.

Analogous to the bark may be mentioned here the rhatany root, which possesses equal powers as a specific over the disease, and is at the same time more grateful to the palate, and not constipating the bowels (as in No. 31).

Where the bark produces looseness or tendency to diarrhœa, it may be checked by small doses of liquid laudanum, as fifteen or twenty drops at a time repeated after every dose of the specific; in the same manner, if an opposite state of the bowels should prevail, the use of the bark may be joined with a few grains of rhubarb in every dose.

This treatment will never be found to fail in cases of simple intermittent or ague, but when the disease has run on some time, or when visceral obstructions have actually formed, then a judicious use of mercury is the only means to be depended on for saving the patient from inevitable destruction. The best preparation for this purpose is calomel administered in a dose of four or five grains every night, more or less, according to circumstances. An anodyne may be given at the same time on the accession of the fit, and when the cure is nearly completed, the bark may be thrown in to confirm

it. Though a variety of species of the bark are occasionally employed, yet the common or pale bark is perhaps superior to any other, and more certain in its effects. The salt of bark, prepared in France, though now made also in this country, is a valuable medicine, and dissolved in the decoction, will be found to possess great powers in the cure of this disease.

The arsenical solution has been highly extolled here, and considered as specific where the bark has failed in every form. However this may be the case in Europe, it by no means can boast equal success in the intermittents of warm climates. For the rapid debility which takes place under the disease, renders the invigorating class of remedies the most proper and safe,

When some degree of fever continues during the interval, attended with pain on pressure of the abdomen, then the bark or rhatany should be combined with a diaphoretic of the saline class as the safest practice, (as in No. 32.)

A recurrence of the disease is only to be prevented by the use of tonics for some time.

REMITTENT FEVER.

This fever, already noticed during the voyage, is by far the most frequent form met with in warm

climates*. It generally attacks with lassitude, and rigors more rarely with chillness, pain of the back, and general affection of the bones. These first symptoms are succeeded, by sickness of stomach, great heat, thirst, and pain immediately above the eye-brows. The pulse is soft, quick, and full; the countenance flushed, attended with incessant head-ache, great restlessness, anxiety, and oppression, and in the height of the paroxysms, there is an abundant vomiting of bile. The crisis is generally by sweat, when a short lucid interval takes place, without much alteration in the pulse, and during this period the patient complains of a bitter taste of the mouth, of giddiness, head-ache, and great prostrations of strength. In a few hours the attack of fever is again renewed with the same violence as at first, and terminates as the former paroxysm, in sweat, or in evacuation of bile from the stomach. In the progress of the disease the remissions become gradually more indistinct, till, if neglected, it ends at last in the continued form, when the following additional symptoms make their appearance. The tongue, formerly white and furred, becomes now dry and hard, the teeth and gums are covered with a thick tenacious slime, and

* This fever may be defined mild, increased, general heat, of the system with exacerbations,

not unfrequently aphthæ affect the mouth and throat. The eyes become dull and heavy, or else wild and staring, with an increase of head-ache, heat, and general inquietude. The patient falls into a course of delirium, attended with tremors and catchings of the tendons. As the strength sinks, the pulse becomes small and fluttering, and the skin is covered with a cold clammy moisture. Symptoms of putrefaction then, if not earlier, begin to appear, though not in all instances. Where the paroxysms of this fever are not so distinct as now stated, and the patient goes about complaining, though always worse at night, there is greater danger than in the more distant form of the disease. This fever however is always more aggravated in its symptoms, and greater in its progress, in proportion as the patient is exposed to a low, moist situation, and noxious effluvia.

Heat and moisture and noxious exhalations are the great predisposing causes of this disease, to which excessive fatigue, over exertion, and depressing passions may be occasionally joined. These causes are so well known at Bengal as not to escape the notice of the most common observers, and particularly the depressing passions. Hence the young adventurers, who have come from Europe flushed with the hopes of success in life, on finding themselves disappointed, become dejected in mind, catch the fever, and are generally carried off; while others, inured to the climate and not under

the same state of mind, either escape the disease, or have it in a milder form. The dread of the disease is not only the certain forerunner of its attack, but the certain cause also of its mortality. The contagion once produced, no doubt, spreads the disease, and the malady, at first sporadic, or attacking only a few, becomes in the end general, and few or none escape.

In commencing the cure of this fever nothing is so useful as the practice of repeated purging by saline purges; this is indicated by the accumulation of bile, and other symptoms of nausea and squeamishness which the stomach betrays. If called therefore early the antimonial solution (No. 2) should be immediately employed, which will both clear the stomach, and by passing downwards operate also on the bowels, a necessary step in order to render the action of other medicines effectual, which are often retarded in their operation by this primary state of the stomach and bowels.

But where the fever is rapidly advancing, instead of this practice, small doses of tartarized antimony are to be given in the proportion of a quarter or half a grain every hour till an evacuation is produced, and their operation may be assisted by a decoction of tamarinds with senna, or a solution of manna and vitriolated tartar (as in No. 5 and 6). When exhibited on the invasion they never fail to mitigate the paroxysm, and to bring it sooner to a conclusion. This practice does not admit being

often repeated or long continued. A generation of bile in excess is an attendant of the disease through its whole progress, and only ceases with its termination. Though this is the usual plan to be pursued in the commencement of this fever, yet there are cases where the irritability and inflamed state of the stomach are so great as to require immediate mitigation previous to any other proceeding. In such delicate cases it will be requisite to suspend pain and irritation in the first instance, by a dose of opium as a grain in the form of pill, to apply fomentations to the region of the stomach, and to give nothing stronger as an aperient than a decoction of camomile, or any other mild bitter. But what is even preferable is a combination of calomel and opium (No. 4) taken in the form of pill two for a dose repeated one every half hour, till the pain, heat, and vomitings cease. This medicine may be also assisted by clysters, fomentations, and in very desperate cases by the warm bath. This primary affection of the stomach being thus removed, the evacuating plan is then to be pursued, as already directed in a milder state of the disease.

But though evacuation is thus an essential prelude, the real cure of the fever must depend on a liberal use of the Peruvian bark, which should be begun and continued without regard to the remissions. If the stomach is weakened by the preceding evacuations, the bark will sit better if preceded by a

dose of opium, and in giving the bark the best form is the infusion or decoction at first, which is rendered more effectual by dissolving in it some of the extract (as in No. 11). From the moment the stomach is so much stronger as to bear it, the decoction should be changed for the powder, given either in a saline draught, or port wine, or where this is nauseous to the patient in a draught with a small proportion of brandy, and some spoonfuls of almond milk sweetened to the taste.

The first successful effects of the bark are the appearance of a gentle sweat, or else a copious stool. When it proves astringent, the state of the bowels is to be attended to by assisting them with laxatives; but if, on the contrary, it operate on the bowels, then this tendency is to be prevented from going too far, and weakening the patient by an occasional dose of opium. When the fever is long protracted, local affections often take place, either of the bowels or liver. In these cases the use of mercury is of the highest advantage, and a grain of calomel, combined with opium, should be given every night, and steadily continued along with the bark till all the apparent danger from the local affection appears over.

In the fevers of warm climates the diet ought always to be of the most antiseptic kind. Nature points out this by the abundance of ripe fruits, with which these countries abound, which serves in some degree both as diet and medicine. Even the

grains, as panada, rice, sagó, &c. should be acidulated, and all the patient's drinks rendered tart, by crystals of tartar or vitriolic acid. When the strength begins to sink, wine should be freely allowed, and mixt both with the food and drink. Cleanliness is an important object in all fevers, and the linen should be frequently changed, and the apartment of the patient kept as cool as possible. In fever more than any other disease there is a desire or craving for particular articles. Nothing is so common in India as a wish for cold water, which should be freely permitted, and in general the patient should be indulged in his longings, as the quantity taken will seldom do harm, though the restriction acting on his mind may.

CONTINUED FEVER.

Continued fevers occur in India in their most malignant forms, and they differ from the remittent in the extreme prostration of strength from the first attack. The countenance is here dejected and much altered, and the eyes shew a peculiar lustre, and that look, which has the appearance of intoxication, sickness, bilious vomitings, and diarrhoea, are attendant symptoms of the worst species, and the least motion from the beginning occasions faintness from the great debility. Giddiness is

here a leading symptom. The eyes seem as if injected with a mixture of yellow and red; the skin is mottled over with a rash of a dusky hue, and what are termed petechiæ, vibices, &c. occasionally make their appearance. Tremors, convulsive twitches, hiccup, and a train of nervous symptoms, joined with delirium and stupor, generally close the scene, which happens sometimes on the fifth, early on the 7th, often on the 11th, but most frequently on the 17th day of the attack.

But though this is the most common appearance of continued fever in its malignant form, it is often more insidious in its attack, and it has often reached its ultimate progress before the attendants are aware of the patient's danger. Thus there is often little heat or increased pulse marking the presence of fever. There prevails only a depression and lowness of spirits, and this is succeeded all at once by stupor, delirium, and coma, under which the patient unexpectedly sinks. It is only, therefore, by being conversant with the highly debilitating effects of contagion, and with that changed and marked appearance which the countenance assumes in fever, that one can form a correct judgment of the case, and not be deceived. What is apt to mislead also in the first attack of such fevers is, that symptoms of catarrh or common cold, or slight peripneumonic affections, are conspicuous, which lead astray both in appearance and treatment from the real nature of the distemper.

The treatment of this fever differs little from the remittent. The cure is to be begun by an emetic, so as to clear the stomach and bowels, and no time then lost in throwing in the bark, to cut short the progress of the malady. It will answer here best in decoction, in a dose of from two to three ounces every two hours, and if the stomach will bear it, joining a teaspoonful of the powder in each dose. As watchfulness is one of the most distressing symptoms, a dose of opium should here be given every night at bed-time, not less than thirty drops of laudanum at a time, with a small proportion of antimonial wine, in a saline draught or some cordial water, and in case of diarrhœa, the antimonial wine may be omitted. Irritability of stomach is often a troublesome attendant of this as well as the former species of fever ; it will be best allayed by opium and the saline draught (see No. 39) given in a state of effervescence, along with tincture of bark or columbo, but when this symptom is removed, the regular use of the bark should then proceed*.

When in the progress of the fever the debility has increased to an alarming degree, the bark must be assisted in its effects by the addition of

* The acetated ceruse, in the dose of one grain, has been recommended as a prompt means of allaying nervous irritation, and superior even to opium.

snake-root, or volatile alkali, and in some cases by an occasional dose of æther.

When the nervous symptoms, as convulsive twitches, tremors, &c. supervene, then opium must be continued in regular doses, suited to the state of irritation, and not limited in its use merely to a dose at night, but given at such other times in the course of the day as the symptoms indicate. At the same time where there prevails a great determination to the head, it requires some caution, and the intemperate use of it may be productive of serious consequences.

During the continuance of the disease, the state of the bowels should always claim a leading attention, and where astringent effects arise from the use of the bark, they may be prevented by clysters, or by its junction with rhubarb occasionally, but the opposite state of diarrhœa is here more common, and is always a dangerous symptom in fevers, though yielding to absorbents, or what is more powerful, to opiates of the warm aromatic kind.

Hiccup, as an unpleasant and alarming symptom, requires also a particular treatment, and will generally be relieved by opium and æther, with the application of a blister if obstinate, to the pit of the stomach.

Blisters are rarely called for, and are only serviceable so far as they tend to relieve the head.

In all continued fevers the strength of the patient

ought to be supported, and when the pulse is low, even from the beginning wine, porter, and animal broths, should be allowed, though their continuance must be entirely regulated by their effects on the system. If the patient is relieved by their use, and the strength increased, no objection can be made; but if on the contrary they increase the determination to the head, and the patient becomes wild and furious, then they must be used very sparingly, or with great moderation. Their use, however, will be less necessary where the bark is early begun.

During the course of continued fever cleanliness is a leading point to be attended to, and the patient's linen and bed clothes should be frequently changed, as well as a free ventilation take place, and the admission of cool air be properly introduced through his apartment. Bathing the hands and face with cold water every morning is no less necessary, and when there is much delirium fomentations to the lower extremities will be highly useful.

On the cure of the fever by the treatment recommended, that there may be no danger of a relapse, the bark should be continued to the quantity of six drachms in the twenty-four hours, for ten days or a fortnight longer.

It may be remarked, on the whole, that in continued fevers the success of the treatment depends entirely on the early administration of remedies, and on cutting short the disease in its first stage be-

fore the more alarming symptoms make their appearance. This is the more to be enforced, from the rapid progress of such diseases in the warmer climates, which leaves no time for hesitation or delay.

DYSENTERY.

Next to fever dysentery has been stated as the most formidable disease in India, and proves also next to it most fatal to Europeans. It is the scourge every where of the naval and military service, and has too often arrested victory in her most brilliant career. This disease, during the first days of its attack, frequently resembles a common purging or diarrhœa. It consists in a frequent discharge of slime or mucus from the intestines, often mixed with blood, and as the slime is washed off the bowels, the gripes, pain and tenesmus become more violent, and the pulse is accelerated. The disease seems to depend on a specific inflammation of the membrane, lining the lower part of the gut, particularly the colon and rectum. The stools are small, slimy, and often bloody. This disease generally begins with lassitude, slight rigor, disorder of stomach, and bilious vomitings, the abdominal symptoms then commence, and are attended with great prostration of strength and spirits. The skin is hot, the pulse small and quick. The tongue foul,

and sometimes there occurs hiccup. When an early application is made for relief, the fever and gripes are often removed in a few days, or else the disease becomes chronic. But when delay has taken place the symptoms become more aggravated. The tongue assumes a black colour, the teeth are covered with a tenacious slime. The nausea, hiccup, and gripes, become more severe; the stools are small, frequent, and highly putrid, accompanied with tenesmus, and sometimes a falling out of the gut. The frequency of the evacuations reduce the patients to the greatest weakness, and his countenance acquires imperceptibly a ghastly appearance. Mortification of the part then takes place, which is denoted by a remission of the gripes and other painful symptoms, though the nausea, hiccup, and vomiting still continue. The pulse feels small, quick, and fluttering. The stools seem to pass off insensibly, and highly offensive, and the patient is seized with convulsions, twitchings, and delirium. Sometimes at this period a viscid slime is vomited up, and also pustules appear in the legs and arms, which degenerate rapidly into putrid sores. The pulse then fails, the patient becomes insensible, and generally expires while on the stool.

In some cases the fever attending dysentery shews regular remissions. In other cases, it seems conjoined with some affection of the liver. The disease is often fatal in a few days. It seldom exceeds

seven or eight, unless it becomes chronic, when it proves fatal in seven weeks.

This disease is often epidemic, and accordingly appears in unhealthy seasons at the same time with the remittent and other fevers, but it may also arise at any period where the perspiration has been suddenly checked by night fogs or rainy weather, or by imprudently exposing the body when overheated to the chilling effects of cold winds. Improper aliment has been also stated, and whatever produces inordinate action of that part of the intestines, the seat of the disease.

The cause of death in this disease arises always from mortification of the gut, as is evident by dissection.

The fever which accompanies dysentery in a warm climate, being always of the low kind, is not to be removed by active antiphlogistic remedies. The first step pointed out is to clear the stomach and bowels of the offending cause, which may either excite or continue the inflammation; for this purpose an emetic of tartarised antimony should be given in a decoction of tamarinds, which will operate in both directions, and relieve the troublesome tenesmus. As the great object is gentle purging for some time, the choice should be made of the mildest and most soothing laxatives to the intestines; castor oil, as in No. 21, is one of the most useful, and seldom fails both to procure evacuation, and to take

off the painful tenesmus. Ipecacuhana given in small doses (as in No. 33) has been found equally serviceable, and accordingly with some has been considered as a specific for the disease, but this it proves to be no farther than by acting as a gentle purge. From the violent pain and irritation that attends this malady the use of opiates is strongly indicated, and should be employed regularly by giving a dose every night, but without interrupting a free discharge by stool. In cases of high irritation of the rectum, instead of the opiate internally, it may be administered in clyster, as fifty or sixty drops of laudanum in an infusion of linseed or starch, as in 35. In cases where the disease is protracted, and the patient weakened by the purging, small doses of ipecacuhana joined with opium, as in 23, continued for some time, will be found highly useful, and should only be interrupted by an occasional laxative when there is much griping.

Where dysentery attacks with vomiting and much irritability of stomach, the same plan should be pursued as directed in remittent fever, and if the pain of the bowels and gripings are uncommonly severe, the warm bath and a blister to the abdomen are of the utmost consequence, by obviating inflammation, which is here so apt to degenerate into gangrene. The regimen in dysentery ought to be strictly attended to, no less than the medicines employed. That directed for remittent fever will answer equally here, and from the putrid ten-

dency of the disease, even acids and ripe fruits are indicated, which will not be found to increase the symptoms but the contrary. The diet, indeed, should consist chiefly of smooth farinaceous substances, as rice jelly, water-gruel, sago, and salop, to which wine should be added, and that freely, when necessary, or the patient's strength seems to require it. The most proper drinks will be barley-water and rice-gruel, and if the gripes are very severe almond milk or the decoction of starch.

During the whole of the disease the patient should be kept in a pure cool air, so as to avoid any bad effects from his own filth, or from communicating infection to those around him. Great caution should also be observed in the return to animal food, and none should be allowed for some time except in the form of light animal soups. On the bowels recovering in some degree their tone it may be hastened by an occasional dose of the infusion of bark, as in 24; and for the complete recovery the cold bath, gentle exercise in a carriage, but above all a change of climate, are necessary.

Such is the practice which will be found generally successful in dysentery, when applied at its commencement, and where no local affection has yet taken place from excess of inflammation which often happens very early. Whenever this event has occurred, then the disease becomes highly obstinate, and every usual remedy is found ineffectual. In this state mercury has been tried with

advantage. It is prescribed in the form of calomel, combined with opium, (as in 4), in a dose of four or five grains every night, and if not acting on the bowels so as to produce a free discharge, an occasional laxative may be interposed. The mercury should be carried to affect the system as speedily as possible, and generally from the period that the salivary glands are touched, the symptoms of dysentery begin to remit. The quantity required for this purpose, varies according to the constitution of the patient, but in general it takes place before a drachm is made use of. Should the calomel prove too active on the bowels, the common blue pill, or alcalised mercury, will answer equally well, and demulcents and absorbents may be conjoined according to circumstances.

DISEASES OF THE DRY SEASON.

Such are the prevalent diseases that affect Europeans in India in the moist season, and which are the most fatal. Those that occur in the dry season fall next to be considered, which are milder in their nature, but in many respects highly formidable. These were mentioned to be bilious affections, cholera morbus, cholic, and hepatitis.

BILIOUS AFFECTIONS.

Bilious affections, under a variety of titles, are among the most frequent maladies in every warm climate, particularly in India. I have remarked in a former publication that by the change from a cold to a hot climate all the secretions of the body are increased, that of perspiration and the bile peculiarly so, and the latter in consequence rendered more acrid. Hence Europeans on their arriving in the hot climates, are very subject to redundancy of bile, and disease of the liver. A continued exposure to the effects of heat at length induces a different state of the frame, the digestion becomes impaired, the appetite irregular, and the secretion of bile at times suspended and at times increased, and probably possessing an acrid quality. The gastric secretion is also vitiated. These effects occur sooner or later as the person indulges himself in the use of spirituous or vinous liquors.

Such a state of health being brought on by residence in hot climates, and also being met with in our own country, occasioned by excessive stimulation from other causes than heat, leaves us at a loss how much to ascribe to the effect of a high temperature, the more so that few reside in these countries, without combining the application of both these hurtful powers. When the constitution has not been hurt by excess in the individual, or the

effects of it entailed by his progenitors, it is probable that the order of things which has rendered an intercourse between different climates necessary, has in the economy implanted the power of making the change without the sacrifice of the blessings of healthful existence. This opinion however I confess requires limitation, and the difference between the man of colour and the European, shews that a peculiar conformation takes place in the latter, for better supporting the influence of excessive heat, and that though by a rigid attention to himself the European may avoid many of the evils to which change of climate subjects him, yet that a redundancy of bile seems one of the unavoidable consequences inseparably connected with a warm climate to his constitution, and that the morbid effects arising from it he is under a constant necessity to combat. Experience has taught the European this in India, and the moment he feels himself unwell, he has recourse to the calomel, reckoned according to popular opinion a specific for carrying off the redundancy of bile. An opinion then so general cannot arise without an existing cause, and that cause the feelings of every man warrants in that climate. So much indeed are the people at Madras in particular acquainted with it, that every one in the warm months, when these feelings are most prevalent, is his own physician, and it is not an uncommon thing to see a patient one hour vomiting abundance of bile, and the next hour taking a ride

into the country. Considering then a redundancy of bile as always more or less present, when arising to excess it produces various morbid affections. One of the most painful of these is

CHOLERA MORBUS.

This disease consists in an increased action of the liver, producing a copious and morbid secretion of bile. It is more prevalent on the coast of Coromandel and Malabar, than in the other parts of India, in consequence of the excessive heat, occasioning at all times a morbid accumulation of bile, and the chilling land winds checking the perspiration as the evening sets in. Though always violent under proper treatment, it is seldom fatal. The leading symptoms are a vomiting and purging of bilious matter, accompanied with much pain of stomach, and spasms in different parts of the body. In the progress great thirst prevails, cold sweats come on, the pulse is small and irregular, and faintings, coldness of the extremities, and hiccup, are the concluding attendants of this malady.

Excessive heat stimulating the liver to an increased exercise of its functions, is the prevailing cause of the disease, aided by an obstructed perspiration for the time.

The first step in the cure is to weaken the prevailing source of irritation or accumulated bile in the stomach and bowels by dilating it. For that

purpose large draughts of warm water, water-gruel, or chamomile tea, should be freely taken, and the same injected by clyster, and after dilution in this manner, opium is the grand remedy to be trusted to. From the great irritability of the stomach it will be preferable here to give it by injection, and from eighty to one hundred and twenty drops of liquid laudanum, in four ounces of thin mucilage of gum arabic will answer, which, as soon as it shews an influence in mitigating the pain, should be succeeded by a cordial draught, not exceeding two table-spoonfuls, and containing in it twenty-five or thirty drops of laudanum. This plan is to be occasionally repeated till the inordinate action of the stomach and bowels is entirely allayed, and the patient in the mean time is to be supported with warm wine and water, and other cordials, in proportion as the coldness of the extremities or the obscurity of the pulse seems to require it. On some mitigation of pain, the warm bath will give farther relief; or in place of it, flannels wrung out of warm water applied to the bowels and extremities, and on rubbing these parts dry, they may be afterwards covered with hot dry flannels. Instead of water-gruel in this disease, a decoction of oat bread, toasted brown, has been recommended. The sulphuric acid, joined with the laudanum, has been also supposed to possess beneficial effects, and when the stomach rejects the laudanum, it will be

proper to give it in the form of a pill of solid opium.

After the disease is subdued, a dose of rhubarb or Epsom-salts will be proper, and as the bowels are some time before they recover their tone, the tincture of Columbo bark or rhatany root, joined with the sulphuric acid, in a few drops, may be given daily in a decoction of Iceland liverwort.

CHOLIC.

The cholic of India is generally of a bilious nature, resembling more the dry belly-ach and nervous species than the common cholic of Britain. It is marked like it, with violent pain of the bowels, commonly about the navel, and this pain has various sensations of burning, twisting, or as if the intestines were tight bound. The body is here generally costive, and there is more an inclination to reach than any real vomiting.

The cause of this disease, if not arising from any acid matter taken into the body, is entirely owing to the application of cold when overheated.

The difficulty in the cure of cholic arises generally from the irritability of the stomach. Hence emetics are here improper remedies, and the safest

plan is to attempt the cure by mild purgative clysters, either of the saline or oily kind, succeeded by the use of opium. If much sickness prevail the opium may be given in clyster, as directed in cholera. Where liquid medicines are rejected by the mouth, a pill composed of calomel and opium will answer. Ten grains of calomel and two of opium made up into three small pills may be given, one every half hour, till the sickness and pain abate, and this is to be followed by a purgative medicine as already recommended. This combination of purgatives with opium will be found of the highest advantage, by the latter taking off the spasmodic affection of the muscular fibres of the intestines, and promoting the operation of the purgative remedy.

During the progress of the complaint relief of pain will be given by the use of fomentations, the warm bath, and even the application of a blister to the abdomen. But this is only indicated where the pain is uncommonly severe, and there seems a tendency to inflammation.

One of the most troublesome symptoms which attends the progress of this malady, is severe cramps in the calves of the legs. If frequently recurring, and very painful, opium and other anti-spasmodics must be employed for their relief.

DIARRHŒA.

This is a complaint which is apt to occur to Europeans on their arrival in India, more from a change of diet, than any other cause, particularly as the change after a long voyage is suddenly made. It is therefore a complaint rather of a temporary nature, than occasioned by any fixed cause, and is accordingly in general very tractable. The chief point necessary to restrain it, is moderation in the use of vegetables and fresh meat. A dose or two of rhubarb, as in 36, will be the only medicine required, and should there be much pain along with it, an opiate at bed-time may be indulged in. These precautions pointed out, are particularly necessary in the rainy season; if neglected, especially at Bengal, a simple diarrhœa is very apt to degenerate into dysentery.

HEPATITIS, OR INFLAMMATION OF THE LIVER.

Liver diseases, known under the name of hepatitis, are the grand epidemics of India; and among troops in hospitals they form one third of the whole cases that occur. This may be easily accounted for, from the importance of this organ in the system, and

it being the reservoir from which all the impurities of the constitution are eliminated. It is divided into two species, the acute and chronic.

The acute India hepatitis is a state of increased ignition of the liver.

The symptoms of this state are often not so strongly marked as when they take place in Europe. Sometimes it is preceded by high fever, difficulty of breathing; and a violent fixed pain in the right side, or region of this organ. At other times, the pain in the side is not at all constant or acute, and is therefore little noticed by the patient. In its progress, a short, dry cough, and pain on the top of the shoulder, supervene, which, though a never-failing attendant of the disease in Europe, is often entirely absent in India. Where it does occur; its exact situation varies, according to the particular circumstances, or the part of the organ more immediately affected. Fulness of the liver, and pain on its pressure, with some yellowness of the eyes, or countenance, strongly indicate this complaint; and flux sometimes precedes, and always accompanies, its progress of a bilious nature, marked by much straining or griping, which is often obstinate in its continuance.

The period of this disease is uncertain; but the more acute its first symptoms, particularly if ushered in by strong indications of fever, then its progress is more rapid than otherwise: and its cure may be

equally retarded by improper treatment, and by intemperance or irregularities.

The disease evidently arises from excessive heat, producing debility of the system, and occasioning an increased and vitiated secretion of the liver, the irritation of which on the organ excites the disease.

This disease, where early attended to, or a proper treatment is employed, is seldom fatal; but when extensive suppurations form, or the hepatic system is much diseased, from the long continuance of the malady, then it is often unfortunate in its termination, and the patient dies, exhausted by the obstinacy of the flux.

The cure of this complaint is now reduced to much simplicity. During the first days of the attack, when the inflammatory symptoms run high, some bleeding is necessary, though, from the relaxed habit of the patients in this climate, it cannot with safety be carried far; and a preferable practice is the application of a large blister over the region of the liver, including entirely the affected part. This treatment should be accompanied by the use of saline purges, the best forms of which are marked in the Dispensatory, No. 2. and No. 3 and when, by these means, the inflammatory symptoms are a little abated, the employment of mercury becomes a certain and safe specific in this malady. It is generally used here either by friction or the exhibition of calomel; and the flux, or bowel disorder, is never to be

considered a bar to the administration of this remedy. The great success of this practice depends on pushing on the course as quickly as possible, and inducing a slight soreness of the mouth, or salivation, as a proof of its having fully impregnated the system. This, indeed, is not so easily excited in India as in Europe, and it also disappears sooner in a warm climate. When friction is used, the size of a nutmeg of the mercurial or blue ointment is to be, when excited, rubbed in every night on the region of the liver, or the right side, the seat of the affection; and after the mouth is touched, the same practice is to be continued, though in smaller quantity, for two or three weeks longer, till every symptom of the disease has disappeared, and the liver regained its natural and healthy state. Where the calomel is preferred, it may be given in a pill, combined with rhubarb, according to the form marked No. 24 and this is the best plan where the flux is considerable, as it is sooner corrected by this combination. The blue pill may be substituted for the frictions, where it is wished to affect the mouth quickly, and may be given in a dose of two every night and morning.

Such is the best treatment in the acute stage of hepatitis, and previous to suppuration taking place; but where the inflammation is not soon resolved by the use of mercury, the substance of the liver passes on rapidly to a state of suppuration, and an abscess is formed, often of large extent. By this, a good deal of the substance of the organ becomes broken

down and destroyed, and the patient is cut off by a putrid flux; but if the abscess is on the convex part of the liver, then, finding its way through the diaphragm, and eroding the lungs, it comes to be spit up. The most favourable situation of abscess is the fore part of the organ, when, if not seated deep, it frequently points externally, forming an indistinct tumour, appearing just under the ends of the first false ribs, or between them and the pit of the stomach: sometimes directly over it; but in other cases more backwards. This tumour sometimes makes its appearance suddenly; and, if not deep seated, is tolerably circumscribed and prominent; though more frequently no prominence appears, but a general diffused swelling or hardness takes place, without any tendency to point, the matter being situated more internally, and forming a large abscess within the substance of the liver.

The treatment in this stage of hepatitis is, to make an opening in the most prominent part of the tumour, and discharge its contents; and the success of this will depend on the situation and progress of the swelling. In this stage of the malady, from the adhesion of parts which is formed by the previous inflammation, there is no danger in the incision, and it is never resolved on till an actual prominence appear. The place of it is near to, and parallel with, the ends of the ribs; and in doing it, unless the fluctuation be very perceptible, caution must be observed, and the blood wiped away at every stroke of

the scalpel, until matter is found. The matter discharged is commonly of a thick, greasy consistence, of a liver colour, full of red lumps—swimming in it, and of a peculiar smell, which is rendered highly acrid and fetid by the access of the external air. At other times, it is thin and pale coloured, but equally disagreeable in the smell. The quantity discharged at first is generally two, three, or more pounds; and the appearance of the discharge afterwards is little changed by the use of antiseptic injections of bark, or honey of roses, and tincture of myrrh. The cavity of the abscess is often so large, that the finger can be turned all round in the inside, without reaching the substance of the liver.

In this stage of the disease, the chances of recovery are but small; and only cases where the tumour is inconsiderable, and situated on the fore part of the liver, are to be regarded as favourable.

2. CHRONIC.

A chronic species of hepatitis is also frequent in India, chiefly marked by a flux of an obstinate and untractable nature. This flux is attended at first with much griping and straining; but in the end becomes a simple diarrhœa, or looseness, without either. In this affection, the liver, though tender to the touch, shews little disposition to suppuration, as in the acute form. Here, as well as in the former

species, mercury is the only remedy that gives the chance of relief, employed as an alterative in small doses, and pushed on according to circumstances. Where it fails, and the flux becomes more frequent, a total relaxation of the intestines ensues. The functions of digestion being destroyed, every thing passes through in an indigested state, and a slow fever and emaciation prove fatal. Where mercury proves successful, the appearance of the flux becomes amended, and the discharge of blood, in all cases of hepatitis, a common symptom, is suspended. As soon as the mouth is affected, the medicine should be pushed no farther, and continued in a slow and regular manner so long as it seems to answer, and as the symptoms appear to abate. When a sufficient period has been given for the action of the specific, then the recovery may be hastened by the use of tonics; but particular attention is to be paid to the state of the bowels, and any thing that may interrupt the regular discharge, or occasion a future accumulation of bile, prevented.

SPASMODIC DISEASES.

TETANUS.

This is a violent spasmodic affection, that occurs chiefly in warm climates; and taken in an extended sense, it consists in a painful, rigid, and immoveable

contraction of the muscles of the jaws and back, which continue completely fixed so long as the disease lasts: added to which, there are also various transient spasms of the muscles of different parts of the body, occasioning various twitchings, &c. The disease, for the most part, comes on slowly, and is often mistaken for some rheumatic affection of the neck. It begins with a slight stiffness in the back of the neck and jaws, and some difficulty in swallowing. As the complaint advances, the muscles of the jaws are affected with such a degree of rigidity, that the patient can no longer open his mouth. It extends even to the root of the tongue, affects the parts concerned in swallowing, and from the neck and dorsal muscles being so strongly contracted, the body cannot be bent forwards, but inclines strongly backwards. Frequently, at this period, strong convulsive transitory spasms seize the underpart of the sternum, and extend to the back; and every renewed attack of them fixes the lower jaw more firmly, till only a small aperture is left between it and the upper one. Sometimes the teeth so nearly meet as to prevent even the entrance of liquids into the mouth. When the disease is thus established, spasms arise in different parts, occasioning the most excruciating pain to a degree indeed beyond description. Thus death is often wished for by the patient and the attendants. A remission of those spasms often takes place every ten or fifteen minutes, and they are renewed with aggravated torture on

the slightest causes, even the motion of the patient himself, or the casual touch of an attendant. These spasms generally end in a general convulsion, which closes the scene of the patient's miseries.

During the whole progress of this agonizing state, the pulse is no way accelerated, nor the heat of the body increased. On the contrary, the extremities feel generally cold.

The most frequent cause of this disease is a local injury, particularly of the toes or fingers, as are wounds, contusions, or luxations; and the slighter the injury, the greater is the danger of this affection. It is also, at times, the effect of cold and moisture, suddenly suppressing the discharge by the skin.

The issue of this malady is also, in some degree, connected with its cause. It is almost always fatal, if left to itself; and this, on the 4th, 6th, or 7th day, being rapid in proportion to the suddenness of the attack. When protracted beyond this, particularly to the 8th, and when it arises from a general cause, as cold and moisture, there is then a great chance of recovery.

Opium is here the only antispasmodic that can be depended on, and in exhibiting it for this purpose, it must be increased so as to relieve the violence of the pains and spasms. Sixty drops of laudanum may be given as a dose every three hours; or if the pill is preferred, two grains of it may be given in the same period, and continued in the same proportion for some time after the spasms abate from their being so liable to recur. The medicine here does

not possess the same influence as in other diseases. It neither induces sleep, nor even tendency to stupor; and in some instances, where the disease was protracted it has been given to the quantity of no less than one thousand five hundred grains of solid opium in the course of seventeen days, without producing the least affection of the head or tendency to sleep. Where the opium cannot be administered by the mouth, it must then be given in clyster, and two scruples or a drachm should be dissolved in half a pint of warm water, and injected every three hours. Should the spasms not remit, and no nourishment be capable of being introduced into the mouth from the fixed spasms of the jaws, in order to prolong the life of the patient, it will be advisable to remove a small portion of the front teeth by a small saw or trephine, so as to admit a flexible tube.

From the failure of opium in this disease, the West India practitioners were first induced to give a trial to the powers of mercury, applied strongly in unction.

In those cases where it was early begun, and where the disease depended on a general, not a local cause, it seemed to succeed; and as it does not interfere with the opium, the two can be conjoined, a drachm of the strong ointment being rubbed in twice a day. In place of it I have in a former publication directed the fumes of mercury to be employed, as sooner impregnating the system, and

producing that effect on the salivary glands, which is reckoned a forerunner of the relaxation of the spasms, and the mitigation of the disease.

The cold bath is also here a remedy which has been highly extolled, but in its use it requires judgment and limitation. It is applied by stripping the patient naked, and dashing over him three or four buckets of cold water on the neck and body, then rubbing him dry, and removing him to bed, when moderate perspiration is to be encouraged. But if the situation of the patient is attended with cold sweats, or he is covered with profuse perspirations, then this remedy is inadmissible. The same may be said of the earth bath, or placing the body for a certain time up to the chin in fresh mould, which has been no less extolled.

The great point in this disease, in order to a successful practice, is the early application of the means suited to afford relief. When the disease is once fully formed, it is in vain to attempt a cure; but where mercury has been early introduced, and the system once impregnated with the remedy, the spasms have never failed to give way. In all cases we are to judge, not so much from the degree of spasm, but the heat of the body as to the issue. Cold extremities, with slight spasms, are always unfavourable, while violent spasms, with a regular heat of body, are often recovered.

Bark and wine, though employed on the idea of relaxation being the prevailing cause of this dis-

ease, have proved ineffectual. Blisters also, and bleeding, on the opposite theory, have been equally unsuccessful.

In a disease so fatal, where the powers of medicine are exerted with so little influence, prevention ought to be the great object, by instilling into the minds of the people, that where wounds or other injuries occur, however slight, they require an early and marked attention. It should indeed be laid down as a general rule of proceeding in all countries where this disease is prevalent, to dilate the injury or wound, so as to take off partial irritation of nerves, and then bring it to digestion by dressing it with spirit of turpentine; for the absence of inflammation in the seat of the injury, is a leading prelude and attendant of the disease; and wherever inflammation originally takes place, or can be induced in time, the disease never appears.

SPASMODIC CHOLERA.

Of the spasmodic diseases, a peculiar form of cholera is met with in India, frequent in its attack and fatal in its nature. It begins with a watery purging, attended with some tenesmus, but with little or no griping. This attack generally commences in the night or early in the morning, and

continues for some hours before any spasms are felt, or they are confined entirely to the toes and feet. These feelings are scarcely noticed by the patient, till they extend to the upper part of the lower extremities, or the legs and thighs. The rapid consequence of these symptoms, particularly of the purging, is great weakness, coldness of the extremities, and a remarkable paleness, sinking, and lividity of the countenance. Some tendency to nausea and sickness now occurs, but nothing bilious is brought up. The spasms soon become severe over the whole body, especially in the abdomen or belly, and thorax or chest, with the exception of the face, neck, and back, which continue free from their attack. The degree of danger attending the complaint is in proportion to the rigidity with which the spasms succeed the first attack; and their severity, especially in the thorax and abdomen, is different from tetanus, and other spasmodic affections; the belly of the muscle is here the seat of the spasm, which is gathered up into a hard knot, with excruciating pain. In a minute or two relaxation ensues; but it is again renewed, or the same state attacks others, leaving the unhappy sufferer hardly an interval of ease, and passing from one set of muscles to another, as from the upper to the lower extremities, in succession. The excruciating pain of these cramps the patient often feels relieved by friction, which they are

anxious to have applied. In the progress of the disease, the countenance becomes gradually paler, more wan and dejected, and the eyes, sunk and hollow, are surrounded with a livid circle. These spasms have a considerable effect on the pulse. From the first it is feeble, and often sinks so much as hardly to be felt at the wrist: its frequency, however, when felt, does not seem to be altered. The tongue has here a white appearance, and is furred towards its root. Much thirst prevails, with a strong inclination for cold drinks; and through the whole disease there seems no affection of the head. The coldness of the extremities, perceptible at first, continues to spread over the whole body, with a dryness of skin, except where alarming sweats are forced out by the violence of pain. In the advanced stage of the disease the hands assume a peculiar morbid appearance, the nails becoming hard and bent inwards, and the skin of the palms acquiring a white colour, or as if blanched long in water, and wrinkled up into folds. In the progress of the malady, the purging continues frequent, with a discharge of a thin watery mucus. The stomach also is so irritable as to reject every thing taken, and in time it is spirted from the mouth without even the effort of retching. The countenance, as well as the extremities, become at last livid. The pulsations of the heart are quick, frequent, and feeble. The breathing becomes laborious and

panting, and the whole powers of life seem soon to sink under this malady.

From the first attack of the spasms, the duration seldom exceeds from three to six hours, when a state of internal oppression comes on, which soon ends the sufferings of the unhappy patient; previous to this a period of ease sometimes takes place, and the intellects and faculties seem entire, though the pulsations of the heart have nearly ceased, and the whole body has become perfectly cold.

The cause of this disease has not been sufficiently illustrated. By some it has been imputed to the influence of cold and damp winds, especially the land winds at night, which, checking perspiration, occasion the retention in the system of what ought to be expelled by the skin. Another supposed cause is the action of diseased bile in the first passages, viewing it in the same light as the cholera morba of Europe. Others refer it to certain noxious exhalations affecting particular situations and running in a certain direction, as the simmoon or sanial heats of the desert. The disease is most apt to attack the most irregular and worst clothed of the seamen.

On whatever cause it depends, there prevails much irritability of the whole alimentary canal, impaired circulation of the heart and arteries, and a violent increased action of the voluntary muscles. This is marked by the striking and alarming pros-

tration of strength, by the great depression of the vital functions, and by the violence and severity of the spasms.

The duration of the disease is seldom protracted beyond ten or eleven days, and in cases where it proves fatal, the event is much earlier, and the patient generally goes off in a dozing, stupid state.

Whatever the cause of this disease may be, the best treatment consists in first administering a purgative solution, as in the dispensatory, No. 2.

After the operation of this medicine, which generally produces some retching and evacuation of phlegmy matter, the patient is to be put into the warm bath for a quarter of an hour, then well dried, and rubbed all over with warm arrack or other spirit, and covered up in bed with warm blankets, being supplied while there with plenty of warm tea and arrack for drink. If the severity of the spasms is not abated by this treatment, the warm bath is to be again repeated, and the same use of friction employed as before. The cessation of the disease will soon be marked by the patient falling into a warm, soft sweat, and the heat of the body and strength of the circulation returning, though a watery purging is apt to continue some days, which will yield to a dose of castor oil, joined with a proportion of wine in diet.

BARBIERS.

This is a spasmodic disease, or rather species of palsy, more frequent on the coast of Malabar than on the other parts of the coast of India. It affects the limbs, and often the organs of speech with inability of motion. It is very obstinate when it attacks, and is seldom removed till a return of the warm weather. It seldom affects the Europeans, and where it does, it yields to a change of climate and the sea voyage, without the aid of medicine.

ANAMOLOUS DISEASES.

RHEUMATISM.

This disease is by no means common in warm climates in an acute form, though sometimes towards the end of the voyage a slight attack of it may take place, from the carelessness of the seamen, by exposing themselves to wet or cold in consequence of sleeping on deck. It appears more frequently in a chronic form, and is a state of diminished ignition of the system being the effect of previous disease, particularly dysentery and remittent fever. Where the acute rheumatism runs high, and the inflammatory symptoms are strong at this period of the voyage, bleeding may be

necessary to reduce it, but it is seldom performed, and it generally yields to a cool regimen, and keeping up a free perspiration by diluent liquors with small doses of tartarized antimony in the powder or the wine.

The chronic species is in India the most general, and moderate sweating forms the principle of cure, regulated so as not much to reduce the patient, as a dose of the Dover's powder twice or thrice a week, using in the intermediate days the guiac in the form of a draught, as in No. 29.

If the pain is very acute and fixed, the application of a stimulant liniment (as in No. 30) will give great relief; and on the entire removal of pain the recovery may be completed by the use of the bark, or rhatany, and the cold bath, (as in No. 37.)

But in many cases, where the disease has appeared of a circumscribed nature, and confined to one joint, shewing a particular obstinacy in resisting the usual treatment, it has generally yielded to a gentle course of mercury, either in the form of calomel combined with opium, or by friction on the part, neither of which methods should be carried so far as to produce even a tendency to ptyalism, though the action of the medicine must be kept up for some time. Even where acute rheumatism takes place in warm climates, this practice of the slow action of mercury instead of the antiphlogistic plan is recommended, on the principle of its preventing the disease passing into the chronic

state, and also its fatality, which has sometimes happened under the common debilitating system of practice. It has been observed, that those who avoid fermented liquors and cheese never suffer from rheumatism.

VENEREAL DISEASE.

THIS disease, though common to every climate, is apt to be differently modified, according to circumstances. These modifications have an important influence on its cure, and as mercury, the great specific when carried to the lengths necessary to cure a confirmed venereal affection, and continued for the necessary time, is found unfriendly to the constitution, it should never be had recourse to unless prompted to it by necessity.

GONORRHŒA.

The treatment here is to be chiefly directed to guard against inflammation, and the great point is to confine the patient to a cool regimen. The body should accordingly be kept open by the mildest laxatives, and the heat of urine, that painful symptom, blunted by mucilaginous drinks. Cleanliness is also a necessary consideration, and the use of a mild sedative injection, used warm during the period of inflammation three or four times a day, and afterwards changed on the subsiding of the acute

symptoms to an astringent one used cold as often will accomplish the cure. It is seldom that simple gonorrhœa resists this practice, and mercury will rarely if ever be found necessary to remove this form of the malady.

CHANCRES.

This form, on the contrary, when accompanied with warts and raspberry-like excrescences, is never to be cured without a continued use of the specific, and often as much of it as is found requisite to cure the confirmed disease. Nay, after being removed these excrescences often regenerate, and in spite of the power of mercury and being destroyed by caustic and escharotic applications, they grow up afresh. In the end, however, having lost the venereal disposition they generally disappear of themselves.

LUES.

In the constitutional stage of the disease mercury, though the only cure, is to be administered in such a manner as not to produce any great or very obvious discharge, except a little soreness of the mouth. The preparations most successful, with this view, are those of the milder kind, as the blue

pill, and the mineral extinguished with mucilage or rhubarb (as in No. 16 of the Pharmacopœia.) The bowels are to be guarded from its powerful action by the use of opiates, and in very bad cases friction is found preferable to the internal remedy. The appearance of salivation always requires a suspension of the medicine, and in cases which resist the milder form, some of the more active chemical preparations, as the calomel or corrosive sublimate, may be substituted with advantage. But in warm climates nothing is so useful in order to enable the constitution to bear the influence of the specific, as its junction with bark. This gives a vigor and tone to the solid, and takes off that irritability which renders the mouth, bowels, or skin, too easily affected, and the habit weakened by profuse discharges, without its having any power over the disease.

During a mercurial course in a warm climate, the strength should not be allowed to sink. The patient ought, therefore, to be supported by a rich though not too stimulant diet. His exercise should be gentle, and never carried so far as to fatigue. Exposure to the heat of the sun should be also particularly avoided, and no additional covering made to the head.

ITCH.

Itch in India is a frequent disease, and is termed the *coucrop*. Its cure is here generally much neglected, from a vulgar opinion that it prevents the attack of other diseases. The itching on this account becomes so severe and incessant, and so much abrasion is produced by scratching, that the liniment often adheres to the excoriated parts, so as not to be removed without drawing blood. The most powerful external combination for this disease is equal parts of sulphate of zinc, flowers of sulphur, and laurel berries, formed into a liniment with oil,

LEPROSY.

This is a frequent disease in India among the natives, and it is generally characterized by the following appearances. Shining tubercles of different sizes, of a dusky red or lead colour, shew themselves on the face, ears, and extremities, together with a thickened and rugous state of the skin, with a lessened sensibility, and often total want of it, and a falling off of all the hair except that on the scalp.

The disease is very slow in its progress, sometimes continuing for several years without materially deranging the functions of the patient, but by its continuance great deformity is gradually produced. The alæ of the nose become swelled and scabreous, and the nostrils dilate, the lips are tumid; the external ears, particularly the lobes, are enlarged and thickened and beset with tubercles. The skin of the forehead and cheeks grows thick and tumid, and forms large and prominent rugæ, especially over the eyes. The hair of the eye-brows, the beard, the pubes, the axillæ falls off. The voice becomes hoarse and obscure. The sensibility of the parts affected is dull and obtuse, or totally lost, and hence pinching and even puncturing them gives no uneasiness. As the malady proceeds, the tubercles begin to crack, and at length to ulcerate. Ulceration also appears in the throat and in the nose, which at times destroys the palate and cartilaginous septum. The nose falls, and the breath is intolerably offensive. The thick and tuberculated skin of the extremities becomes divided by fissures and ulcerates, or is corroded under dry sordid scales, so that the fingers and toes gangrene, and separate joint after joint.

This disease, at a former period, was very common in Europe, and its infectious nature dreaded on all hands. It is now however confined to the tropical climates, and it is never known to visit this

country, except as a local affection or thickening of one leg.

An excessive venereal inclination has been remarked as one of the leading characteristics of this malady. The truth of this is however called in question by many writers, and we are told that at Madeira, where it is a frequent malady, instead of this an actual want of venereal inclination prevails, and that, in lepers, a real wasting of the generative organs takes place.

Many affections of the skin occur in warm climates, which are supposed to partake of this nature, and though they do not rise to the same formidable height of disease, yet they are highly obstinate and disagreeable.

In all climates where it occurs, the real leprosy is reckoned an incurable disease. The treatment consists at first in small doses of mercury, joined with the decoction of woods, and other alterative, remedies. By this treatment the disease in its commencement is sometimes suspended, but when it has made progress nothing seems to be of any use. The lizard has been successful in some cases in Madeira, and in others has failed. The Arseniates of mercury and antimony have been useful in the West Indies, but as their effect has not been uniform their action cannot be depended on as regulated by any certain principle in removing the disease.

But however prone the climate of India is to the production of disease, in this as in every other situation, the causes of it may be much counteracted by every man's care of himself. This has been strongly urged in several parts of the preceding work, and the subject of prevention so far as regards the health of the crew, and the voyage to this quarter, has been particularly gone into. On land, many of the regulations there laid down will apply, so far as respects salubrity or insalubrity of residence, and the consequences which originate from this cause. It remains, however, to consider another subject connected with it, or the rules of living that are most proper for the preservation of health with the European in that climate.

RULES OF LIVING IN THE EAST INDIES.

THE excessive stimulus of heat acting so powerfully on the animal frame, is the noxious power to be chiefly guarded against by the European in that climate.

By far the greater number of persons who first go out to India are in the early stage, or the very vigour of life; and if they agree with the passage, and arrive in health, they discover high spirits and strong animation, and all that tone and vigour of system they possessed in Europe. The enjoyment of the sea air, and the moderate exercise regularly taken on deck, give them a keenness of appetite and an unimpaired digestion; and animal food constituting a considerable part of their meals during the voyage, they arrive with a strong desire of continuing it in the same manner as in Europe. This is accordingly indulged in for some time: the appetite complies with the desire of the new-comer; and this habit of living goes on till some stomach or bowel disorder check its progress. This, then, is the bane of every European, of which he should be previously apprised, and that the diet must be

suited to the temperature of the country, and the habit of body made to accommodate itself to the change. His first resolution, then, on his arrival, should be to accustom himself to what are termed the native dishes, and to follow the example of those who have long resided there, and are aware of the consequences which attend a different plan. The native dishes consist chiefly of boiled rice, and fruits, highly seasoned with hot aromatics, along with meat stews and sauces, in which the proportion of animal matter is but small.

Under this diet, a moderate use of wine or spirits may be indulged in, but must never be carried to excess. The consequence of the latter will ever be producing disorders of the stomach; and when once the digestive organs are deranged, and the process of digestion interrupted, the worst effects will be found to follow. Indulgence in liquors even in Europe is sure to produce liver disease; what, then, must it occasion in a climate where, under the strictest management, a tendency to this complaint can hardly be avoided! Shrub and water, or Madeira well diluted, is, in a moderate quantity, necessary to be indulged in between meals, in consequence of the excessive perspiration, and the debility which is found connected with it. This beverage will be more beneficial than the sherbets of the country, which are merely acids and water perfumed, and which have little power when used,

of checking the septic tendency of the climate. On the contrary, the hot and stimulating aromatics, which contain a poignant salt, by preserving the tone of pulse, eaten with the food, have a powerful influence, and if requiring any additional stimulus, a few glasses of wine or punch are preferable to any thing else. A superabundant acid in the stomach and bowels is generally more to be dreaded than the want of it.

Besides diet, the prepossession in favour of European manners is no less injurious to the settler on his first arrival. Considering those indulgences which are absolutely necessary in India as so many effeminate luxuries, he preserves the hardness of John Bull, and will rather use his legs, and walk constantly about, than be carried; nay, will even expose himself, without any shelter, even by an umbrella, to the scorching rays of the vertical sun. This he often continues till attacked by disease, when he learns better from dear-bought experience, and alters his mode of proceeding to that practised in the country. Indeed, in India indulgence is so necessary, or that passive state which keeps the system in a lowered condition, that sleeping an hour or two after dinner is a requisite and useful refreshment, provided the stomach is not loaded with too much meat and drink, which is seldom the case, as supper is here the preferable meal, from the coolness of the hour at which it is served, being also

the time, on that account, of conviviality and festive enjoyment.

The same regulations that respect diet should be adopted in dress. The light and loose flowing dress should be preferred, so far as circumstances will allow, to the close and warm cloathing of Europe.

THE DISPENSATORY AND MEDICINE CHESTS.

IN order to render the present publication competent to the important purposes for which it is intended, the prevention and cure of tropical diseases, and that the precepts inculcated may be applied with effect, it is necessary to furnish it with a dispensatory, and an account of such medicines as are called for in tropical practice, and afterwards to arrange these medicines in the portable form of a chest, suited to the various situations of life which require their application. Thus it will be necessary to form three varieties, viz. :

The Sea-chest adapted to the voyage.

The Family or Resident's Chest for domestic use ; and

The Practitioner's Chest for a more extended practice.

SEA CHEST.

In forming the sea-chest it is to be observed, that only a fixed sum is allowed by the owners for fitting it up, and therefore no insignificant article should

be admitted into it, nor such as are apt to spoil by the heat and moisture of the climate. Proceeding on these grounds, the following are the articles that ought to compose it, increasing the quantity of some at the discretion of the surgeon, according to the length and unhealthiness of the voyage.

PRINCIPAL ARTICLES.

Peruvian bark, in fine powder, bottled, corked and sealed	40 lbs.
Opium	8 oz.
Tincture of ditto	2 lbs.
Calomel	1 lib.
Quicksilver or crude mercury, independent of the ointment carried out	2 lbs.
Glauber's salt (Natron Vitriolatum) . . .	28 lbs.
Epsom salt (Magnesia Vitriolata) in jars	28 lbs.
Soluble tartar (Kali Tartarisatum) . . .	2 lbs.
Rochelle salt (Natron Tartarisatum) . . .	4 lbs.
Emetic tartar (Aulimonium Tartarisatum) .	4 oz.
Glass of antimony, for making antimonial wine	1 oz.
Ipecacuan in powder, bottled, corked and sealed	3 lbs.
Crystals of tartar and cream of tartar, for making tartar ale	1 cwt.
Strong sulphuric acid for making the di- luted	2 lbs.
Salt of tartar	2 lbs.
Blistering plaster	3 lbs.

PERUVIAN BARK.

The bark, as commonly employed in practice, consists of three species—the pale, red, and yellow, and each of them is promiscuously used, and perhaps with equal advantage. In East India practice we have directed that the dose should not be less than two drachms every three hours, and this quantity taken at once will have much more effect than where it is given in a more divided state. The bark thus taken is apt either to sit heavy on the stomach, or to affect the bowels with looseness and diarrhœa. The first will be corrected by joining with it a few grains of Jamaica pepper in powder, or a little cinnamon powder; and the latter will be prevented by giving always with it a few drops of laudanum. This is absolutely necessary in a warm climate, for such is the debility produced there by disease, that the continuance of this symptom for any time is ready to sink the patient, and render his recovery a matter of great uncertainty. It is seldom that the surgeon at sea has much occasion to study the taste of his patients; yet where the taste of the bark is disliked, it may be so far accommodated as to be given in liquorice water, Camphorated julep, or peppermint water, are also good vehicles.

Where the bark cannot be made to sit on the stomach, and is rejected from the irritability which often happens in the commencement of fevers,

the essential salt may be preferred, given in the quantity of a scruple, which is equal to two drachms of the powder. This preparation contains, in a concentrated state, the active properties of the simple remedy, and will be found to answer every purpose, where the simple is necessary, without any of its inconveniences. It may be also given in the same vehicle as the other.

OPIUM.

Opium is one of the most useful articles of medicine that can be carried to a warm climate, and whether given in a solid or liquid form, is equally effectual. When a permanent influence of the medicine on the system is wanted, given in the form of a pill, will be preferable. But where a quick and powerful operation is necessary, the liquid state or laudanum should be resorted to. The dose of the pill should not be less at once than two grains, and of the liquid, forty drops, where its own powers are trusted to, uncombined with any other medicine. In cases where it is given in injection, the quantity should be doubled to what is given by the mouth.

An acid tincture of opium has been lately introduced into practice; and as it is not so apt to disturb the head and stomach, it ought to claim a pre-

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erence to the common laudanum. It is made with the acetic acid, and, we should conceive, well adapted to East India practice, in which, as yet, it has had no trial.

CALOMEL.

This is one of the mildest preparations of mercury, and one of the most useful in all the domestic complaints of India. As these complaints of the stomach and bowels, so prevalent in this quarter, depend on a redundancy of bile, a few grains taken every night, on the first symptoms, of such complaints being felt, are sure to remove them completely. Such reputation has it gained for this purpose, that almost every person in the East Indies keeps a small box of it in his pocket, which he uses at pleasure. In diseases of children, it forms almost the sole remedy. In obstructions and chronic inflammations of every kind, it is serviceable in the highest degree, and however variously it may be combined by different practitioners, it is to the simple medicine the certainty of the cure is to be attributed. When this medicine disagrees internally, it may be employed with equal success, and without disordering the stomach and bowels in friction. Three drachms of it to the ounce of lard, will form a good ointment, and the size of a nutmeg or more of this, may be daily rubbed on the inside of the thigh,

or leg every night till it entirely disappear. The operation is best performed by the patient himself, and this method is preferable to its internal use in all cases of liver disease or other obstruction. This preparation is often adulterated with prepared chalk, which is easily detected by pouring in it a few drops of diluted sulphuric acid, when, if an effervescence takes place, it shews the adulteration. One effect of calomel is to increase all the secretions when combined with other medicines. Thus, with the antimonial powder, it affects the skin, and with squill or turpentine it acts on the kidneys.

SALINE PURGATIVES.

The different saline purgatives, as the Glauber's, Rochelle, Epsom, and other salts, are well adapted for tropical practice. They cool the body, carry off the accumulated secretions with ease and expedition, and are useful in every affection of the stomach and bowels, particularly where there exists fever, and the heat of the body is increased. The Rochelle salts, on the continent, has had a preference over the Glauber's; and the Epsom, as being less disagreeable; and on the late Dr. Cullen's recommendation, it has been extensively used in this country. An ounce or twelve drachms is the dose of this salt, dis-

solved in a small quantity of water, not exceeding four ounces.

The Epsom salt is, however, preferred by many to the former; and it has the advantage of operating, without pain, and with equal efficacy. Six drachms is sufficient for a dose, and equal to an ounce of the Rochelle. It may be taken in the same manner as the former, and it is by no means an unpleasant potion.

EMETIC TARTAR.

This is one of the most powerful preparations of antimony, and even in the quantity of half a grain, will be found active. From its being more active as an emetic than ipecacuan, it is highly useful in the commencement of most diseases attended with sickness and fever; but wherever there is great debility or prostration of strength, the ipecacuan will claim a preference. This medicine being uncertain in its effects on patients, requires caution in administering it, and the safest plan is to give it in divided doses, dissolving eight grains in two ounces of warm water, and giving two table spoonfuls of the clear solution every hour, till it operates.

When quick and full vomitings is required, as in case of vegetable poison, emetic tartar is the best resource; but yields to ipecacuan, wherever a mineral is concerned.

ANTIMONIAL WINE.

This, formerly made with glass of antimony, is preferred now made with emetic tartar, as being more certain in its operation. In pectoral complaints, given in a small dose, combined with a mucilaginous medicine, it promotes expectoration, and abates fever, producing a determination to the skin, and quieting the increased action of the vessels. In cases of acute pain, it is best given united with laudanum, in a portion of distilled water, the best of which is peppermint. It is, however, a medicine that should never be used in diseases of a doubtful nature, or that shew a low, nervous, or putrid tendency. Here the ipecacuan is the safest preparation, as not inducing that debility the other is apt to occasion, and which confines its operation more to acute diseases of an inflammatory nature. In chronic affections of the skin, it is reckoned a most useful alterative, and given in a decoction of the woods or elm bark with much advantage.—Dose from twenty to sixty drops, as an alterative emetic from one drachm to half an ounce.

IPECACUHAN.

This powder is light and useful in a warm climate. It is a safe and efficacious emetic, and where

it fails, it is not distressing to the patient. In every disease where full vomiting is required, it operates with sufficient power, without going too far; and where more activity is wanted, giving with it a small proportion of emetic tartar, as two grains to the dose will answer the purpose.

This medicine, in small doses of a few grains, joined with opium, determines relief to the skin, and is useful in dysentery diseases and affections of the lungs. In the small diminished dose, by itself, it is no less beneficial in spitting of blood and other increased diseases, and after the first symptoms of active inflammation are past, it is a sovereign remedy in pleurisy and the first stage of consumption.—Dose as an emetic twenty grains.

CRYTALS AND CREAM OF TARTAR.

This is a mild aperient, and highly useful as a laxative remedy in warm climates, from its cooling tendency. In impurities of the blood and juices, it is generally resorted to as a sovereign remedy, either by itself or mixed with flower of sulphur. It makes a useful acid in drinks for acute diseases, acidulating them at a cheap rate when other acids are not to be had; and infused in malt liquor, it forms at sea a useful antiscorbutic.—Dose one drachm to six drachms.

In powder, cream of tartar is sometimes adulterated with sulphate of potash. This may be known,

by dissolving a small quantity of it in water, and repeatedly shaking it when the greater solubility of the potash will render the solution bitter.

DILUTED SULPHURIC ACID.

In small doses, it is a powerful tonic, and well adapted to those cases of relaxation and debility, the effect of a warm climate or the abuse of spirituous liquors, and has accordingly, in such cases, had a preference over other medicines with practitioners of experience. It is peculiarly adapted for the redundancy of bile, which is the cause as well as the aggravation of disease in tropical regions, by acting chemically in that secretion, and on the same principle, by preventing the fermentation of vegetable matter in the stomach, it is prevented in indigestion. It is combined with other medicines for various purposes. With Epsom salts, it renders the latter more efficacious; as an alterative with the bark, it covers the bitter taste, and renders it less disagreeable to the palate.

SALT OF TARTAR.

This alkaline salt is chiefly used for making the

saline mixture. It is also employed by itself in doses of from six to ten grains, to correct acidity in the stomach, and increasing the discharge by the kidneys. It has been prescribed, as a remedy, with much effect in rickets and in all the complaints of children, when the cause of disease is seated in the first passages and connected with acidity. It has also a powerful influence in correcting the power of animal poisons on the system; but its chief use is in making the saline mixture.—Dose five grains to one scruple.

BLISTERING PLASTER.

This is a most useful article for the medicine chest, and the advantage of epispastics in practice so as to inflame the external skin, and thus remove internal disease, by producing both a counter irritation and discharge, are well known. In spreading the plaster, the heat of the spatula should be no greater than to soften it, and not destroy the acrimony of the flies. The plaster should be first held to the fire to soften it, when it will be sufficiently pliable to spread with a knife.

MAGNESIA.

This earth is a production from the Epsom salt. It acts in the stomach entirely as an absorbent, neutralizing the acid formed in consequence of indigestion, and then producing an aperient by the union which acts gently on the bowels. It is best taken with some aromatic, as a little peppermint water, or it may be mixed with a little grated ginger. From the operation of magnesia depending on its union with an acid, its operation on the bowels is uncertain, in some cases very severe, in others very mild, and therefore no absolute dependence can be placed on it.

Where acidity depends on a permanent debility of the stomach, magnesia offers but a temporary relief. Besides correcting the predominant fault of the fluid, the debility or impaired tone of fibres, the cause of the malady must also be removed. It should, therefore, be joined with some aromatic tincture, as ginger and camomile, or the bark, &c. The junction of magnesia with rhubarb is often highly useful, where the acidity of stomach is accompanied with costiveness.

The calcined magnesia is preferred to the carbonate, wherever the acidity is attended with much flatulence.

Magnesia is apt to be adulterated with chalk. This fraud may be detected by pouring a small quantity into diluted vitriolic acid, which should entirely dissolve it if pure.—Dose from one scruple to one drachm or more.

MANNA.

Manna, though itself a gentle purge, is chiefly used as an ingredient in making up purgative mixtures. Being apt to generate acidity, it should not be used wherever there is a tendency in the stomach to this state.

CASTOR OIL.

This oil, extracted from the castor seeds, and cold-drawn, in the dose of an ounce or rather more, is a most useful purgative in bowel complaints, attended with much irritation and pain. It is to many, however, a nauseous medicine. Its operation may be quickened, by joining with it a little tincture of senna, in the quantity of a table-spoonful, where a brisk purge is wanted,

COMPOUND TINCTURE OF BARK.

This is a useful cordial for warm climates, and

may be joined occasionally with a few drops of the diluted vitriolic acid. It is given as a preservative against infection in moist, damp situations, where noxious exhalations abound; but wherever it is employed the state of the bowels should be attended to, and costiveness prevented.—A teaspoonful a dose.

COMPOUND SPIRIT OF LAVENDER.

This is another cordial called for at times, but it is chiefly in low languid cases, where the nervous system is opposed and requires to be roused. It is in such cases a pleasant medicine, but is oftener used to cover the nauseous taste of other articles than for any other purpose.

CAMPHOR,

Is a substance much employed both for internal and external use. In the former case, it is particularly recommended in fever of the low and malignant kind, and in a variety of nervous and spasmodic affections; but it is seldom trusted to alone, and generally forms rather the vehicle for more powerful articles. The form in which it is used for this purpose is the

CAMPHORATED JULEP,

made as follows:

- *Take of camphor, one scruple; spirit of wine, twenty drops; white sugar and gum arabic, each two drachms.*

Having rubbed the camphor first with the spirit of wine, and then the sugar, till reduced to a fine powder, add the gum arabic and reduce it likewise to the same state; then pour gradually on the mass a pint of barley-water, stirring it till the whole is poured in, then cover it over, and when cold strain it for use.

There are few diseases in which this mixture is not given, either of a nervous or putrid nature; combined with the water of acetated ammonia, in the proportion of a third part to the julep, it forms a useful remedy in inflammatory and febrile diseases. In putrid cases, it is mostly combined with the bark. In increased irritability of the nervous system with castor and ammonia, and in pectoral complaints of a chronic nature with squills and assafœtida. In rheumatism, it is prescribed along with gum guaiac; in effluvia, it has been esteemed a useful anodyne.

SENNÆ;

Is a purgative seldom given by itself, but is an active medicine where purging is required when joined with a proportion of emetic tartar. To prevent griping it should be carefully picked off the stalks before being used, and only the leaves employed.—Dose three drachms.

GUM ARABIC.

Wherever a demulcent is wanted, a solution of gum arabic, in the proportion of two ounces to a pint of common or barley-water, is one of the best that can be composed, and is an excellent remedy in all complaints of the kidneys and bowels, where soothing of acrimony is required. It is often joined with nitre in strangury and other cases of active inflammation.

COLUMBO.

Next to the bark columbo is a bitter and tonic, well adapted for East India practice, and will sit on the stomach in cases where the former is apt to

be rejected. It is reckoned useful in bilious complaints, particularly cholera; and in that debility which succeeds hepatitis and other forms of disease, from this source either affecting this organ or the bowels, as a consequence of the previous hepatic affection. It may be given in powder, when substituted for the bark, to the same extent, and as it does not possess the astringency of the latter it never produces constipation.

COMPOUND SPIRIT OF AMMONIA.

This spirit may be easily made in an extemporaneous manner, and at any time, by dropping a little volatile oil into ammoniated alcohol. To render the ammonia a proper solvent of the oil, it must be caustic, and ammonia joined in this way with aromatics, is less acrimonious than by itself, and also more agreeable both to the taste and the stomach. It forms with the bark a proper cordial in low fevers, and is prescribed accordingly in the dose of a few drops; thirty being a full dose.

SNAKEROOT

Is a powerful diaphoretic, from the essential oil it contains, and is properly joined with the bark in

low fevers. It is however not now in the same reputation it was some years ago, though in East India it is still retained as an article in prescriptions, for increasing the determination to the surface, where the fever or other disease is of a critical nature, and in its general qualities it very much resembles camphor.—Dose is one scruple to a drachm.

COMPOUND TINCTURE OF BARK.

This form, made according to the prescription of Dr. Huxham, is a powerful stimulant, and highly useful as a cordial in warm climates, from its possessing at the same time an antiseptic virtue. It is accordingly resorted to on all occasions where a powerful cordial is wanted, and particularly as a preventive of the infection of fever, dysentery, and other contagious diseases. It may be given from half an ounce to an ounce at a time.

JUICE OF LEMONS AND ORANGES.

CITRIC ACID.

This is a most useful article in all voyages, and wherever there is a chance of scurvy breaking out. Its powers are much increased by saturating it with muriate of soda. In fevers and other inflammatory

complaints, it is used to allay inordinate heat and fever, and in a dissolved state of the juices, it acts as a powerful antiseptic, and corrector of putrefaction. It is by this remedy that every navigator has been enabled to preserve the health of his crew at sea, and it can be taken to sea in a crystalized state, as sold under the title of concrete salt of lemons, which has the advantage of being very portable, and keeping so as to be always ready for use. Citric acid is employed with great advantage to check obstinate vomiting, mixed with carbonate of potash. The mixture must be drank in the act of effervesence, on which its anti-emetic powers depend, or to render it more effectual, and that the extrication of carbonic acid may take place in the stomach itself, a scruple of the carbonate of potash, dissolved in ten drachms of water, may be first drank up, and immediately followed by an ounce of lemon juice, or an equal quantity of citric acid. In scurvy this substance is certainly completely specific.

AROMATIC CONFECTION.

This is a warm, powerful cordial, and is either given by itself in nervous and other cases, dissolved in a draught or mixture, or combined with other medicines, to render them more powerful, or correct

their qualities, and make them sit easy on the stomach. The dose is from five grains to a scruple or upwards. In making up this and every other composition for a warm climate, it should be prepared as stiff as possible, that it may keep, and not be acted upon by the influence of heat and moisture.—Dose is from one scruple to a drachm.

CHAMOMILE.

A few chamomile flowers are a useful article to be taken to sea, for fomentations, clysters, and other purposes; but they are rarely, if ever, used internally in modern practice.

PREPARED KALI

Is chiefly used for making up saline mixtures and draughts, and rarely given by itself, but in conjunction with other medicines. It is often a powerful diuretic when given by itself, and assisted by sufficient dilution.

CASCARILLA.

This substance unites the bitter and aromatic in a high degree, and is one of the most useful tonics

that can be employed in stomachic complaints. It is seldom used of itself without the bark or some other article compared with it.

CINNAMON.

This, both as a spice and medicine, is a useful article to be carried to sea. It is most grateful to the palate and stomach in every form, and the distilled water is one of the best vehicles for giving medicine. In cramps and faintings, the oil, in the dose of a drop or two on sugar, is a never-failing cordial. The cassia is often substituted for the real cinnamon, and it possesses the same properties, though in an inferior degree.

GUIAC.

This is a useful medicine in chronic rheumatism, and has been much extolled for that complaint both in the West Indies and in Europe. It acts by its stimulant powers, producing a sense of heat and glow in the stomach, soon extending through the system in general, and if the person is kept warm, occasioning a particular determination to the skin. It is here given in the form of pills or draught, when it contains all its active qualities.—The dose is from ten grains to half a drachm.

RHATANY ROOT.

This root, the produce of Peru, has but lately been introduced into the practice of medicine in this country, although it appears, it has been long known to the physicians in Spain, for its tonic or bracing powers. In its sensible qualities, it approaches nearer to the Peruvian bark than any other vegetable production we are acquainted with, and, by the testimonies of those physicians and surgeons who have given it a trial, in this country, it is by no means inferior in its medicinal properties, but in many respects very superior. It is more grateful to the palate and stomach than Peruvian bark, and hence many patients have been able to persevere in its use that could not take Peruvian bark in any form.

In the cure of intermittents it has not been known to fail; and in one instance, communicated by Mr. Butters, an eminent surgeon, Kenning Hall, in Norfolk, it proved successful after the Peruvian bark, in full doses, had produced no effect.

It possesses an astringent and bitter quality, so grateful to the palate, that the wine manufacturers in Portugal have long used it for the purpose of enriching Port wine, and from the quantity used by them, it is not improbable, that the medicinal property of that wine is principally derived from it.

From the success that has uniformly attended the exhibition of this medicine, we can confidently assert, that it is a most valuable restorative medicine, and very superior to any other of the class of tonics.

Sir Henry Halford, Dr. Cheston, of Gloucester; Dr. Pearson, Dr. Percival, Dr. Maton, Dr. Henderson, Dr. Marris, Dr. Bugo, of Rochester; Mr. Carmichael, surgeon, Dublin; the apothecary of the Chester infirmary, and many other respectable practitioners, speak so highly of its tonic powers that there can be no doubt, as soon as its medicinal virtues are known to the medical profession, it will experience a decided preference to the Peruvian bark.

In all diseases that require the use of a tonic medicine, the rhatany root may be used in the same manner as directed for the Peruvian bark, but as it is somewhat stronger, a less dose will suffice; fifteen grains of the powder may be considered equal to twenty of the best Peruvian bark.

Of this root, the same preparations are kept as of the Peruvian bark; viz. the powder, the extract, and the simple, aromatic, and compound tinctures.

The *extract*, which is made by inspissating the expressed juice of the root in the heat of the sun, (by the natives of South America), possesses in great perfection, the medicinal properties of the root, and

may be taken in the form of pills, to the extent of five or ten grains, twice a day.

The *powder* may be taken from ten to thirty grains.

The *aromatic tincture of rhatany* is a pleasant and efficacious stomachic, and, in the dose of two tea-spoonfuls in a little water, three or four times a day, will prove an admirable remedy for indigestion and its consequences, as flatulency, heartburn, cramp in the stomach, nervous irritability, &c.

The compound tincture is taken in the same manner and for the same purposes.

The simple tincture is much recommended for cleaning the teeth, with the Areca nut charcoal, in lieu of the tincture of myrrh; it more effectually constringes and strengthens the gums.

The following are very efficacious forms for the exhibition of this valuable medicine :

For Ague and Epileptic Fits.

1. Take of rhatany powder, one ounce; divide into sixteen equal parts; one to be taken every two or three hours, in mint or rosemary tea; or
2. Take of rhatany powder, one ounce; ginger powder, one drachm; conserve of orange peel, one oz. Mix, and with simple syrup form into an electuary. A tea-spoonful, or the size of a large nutmeg, to be taken every hour in the absence of the hot fit of ague; or,

3. Take of rhatany powder, and the aromatic tincture of rhatany, of each six drachms: pure water, seven ounces. Mix.

Three large table-spoonfuls to be taken every three hours.

For Indigestion, Flatulence, Fluor Albus, Gleet, Barrenness, habitual Ulcers, &c.

4. Take of extract of rhatany root, one drachm and a half; vitriolated magnesia, two drachms; aromatic tincture of rhatany, half an ounce; pure water, seven ounces. Mix.

Two or three table-spoonfuls to be taken every four hours.

This is a very excellent mixture for the diseases specified above. If the patient be affected with looseness, the vitriolated magnesia should be omitted; or, in case of heartburn, scrofula, or gout, two drachms of the prepared natron may be substituted for it.

If the patient prefers pills, the following form will prove not less efficacious:

5. Take of extract of rhatany, one drachm and a half; dried natron half a drachm; oil of carraway seeds, fifteen drops. Mix, and with simple syrup make a mass.

To be divided into thirty pills, two of which may be taken three times a day, or three twice a day.

For Dropsy.

6. Take of extract of rhatany, two drachms; tincture of squills, one drachm; sweet spirit of nitre, and compound spirit of ammonia, of each two drachms; aromatic tincture of rhatany, half an ounce; pure water, seven ounces. Mix.

Three table-spoonfuls to be taken three or four times a day.

In dropsical affections, either of the chest, belly, or extremities, this is a most efficacious remedy. By strengthening the system, and increasing the secretion of urine it has proved successful in several deplorable cases.

For Diabetes.

7. Take of extract of rhatany root, one drachm; nitric acid, three drachms; aromatic tincture of rhatany, half an ounce; pure water, seven ounces. Mix.

Two or three large spoonfuls to be taken three or four times a day.

For habitual Looseness, or chronic Dysentery.

8. Take of extract of rhatany, one drachm and a half; aromatic tincture of rhatany, six drachms; lime water, seven ounces. Mix.

From two to three table-spoonfuls to be taken every four hours.

For Typhus Fever and Mortification.

9. Take of extract of rhatany, one drachm and a half; camphorated julep, seven ounces; diluted vitriolic acid, two drachms. Mix.

Three large spoonfuls to be taken every four hours.

For Irritability of the Nervous System, Nervous Head-ach, Hypochondriacal Cases, St. Vitus's Dance, &c.

10. Take of extract of rhatany, one drachm and a half; camphorated julep, six ounces; compound spirit of ammonia, two drachms. Mix.

Two or three table spoonfuls to be taken three times a day.

This is an admirable mixture for allaying morbid irritability of the nerves.

DISPENSATORY.

FORMS OF MEDICINE.

No. 1.

LAXATIVE DEOBSTRUENT POWDER.

Take of Tartarized antimony, one grain.

Magnesia, eleven grains—Mix.

To be taken at once or twice, according to circumstances.

No. 2.

APERIENT MIXTURE.

Take of Tartarized antimony, two grains.

Manna, one ounce.

Boiling water to dissolve them, eight ounces—Mix.

Take two table-spoonfuls every hour.

No. 3.

THE SAME.

Take of Tartarized antimony, two grains.

Vitriolated magnesia, one ounce.

Boiling water, seven ounces.

Lemon juice, half an ounce.

White sugar, three drachms—Mix.

From one to two ounces to be taken every hour.

No. 4.

ALTERATIVE SEDATIVE PILL.

Take of Extract of opium, two grains.

Calomel, ten grains.

Conserve of roses, a sufficient portion.

Mix, and form into four pills, of which one is to be taken occasionally.

No. 5.

PURGING MIXTURE.

Take of Tamarinds, one ounce.

Spring water, nine ounces.

Boil them for ten minutes, and in straining the liquor add to it,

Vitriolated magnesia, one ounce and a half.

To be taken in divided doses.

No. 6.

THE SAME.

Take of Tamarinds, one ounce.

Crystals of tartar.

Spring water, twelve ounces.

Boil for two minutes, and to the strained liquor add

Senna leaves, one ounce and a half.

Manna, one ounce.

Infuse the whole for two hours, and then gently strain it, and take it in divided doses.

No. 7.

DECOCTION OF BARK.

Take of Peruvian bark, one ounce.

Boiling cinnamon water, ten ounces.

Infuse them for two hours, and then strain off the liquor.

From two to three ounces, to be taken every half hour.

No. 8.

SWEET BARK DECOCTION.

Take of Sweet Almonds blanched, white sugar,
each half an ounce.

Blend them well, and then add by degrees of
the

Bark infusion, twelve ounces.

Take from two to three ounces every hour, if the stomach can bear it.

No. 9.

BARK DECOCTION WITH SULPHURIC ACID.

Take of Peruvian bark, conserve of roses, each one ounce.

Spring water, 12 ounces.

Boil them for ten minutes, and to the strained liquor add, of

Diluted sulphuric, half a drachm.

Brandy, one ounce.—Mix them.

One ounce to be taken frequently.

No. 10.

STRONG BARK DECOCTION.

Take of Peruvian bark, one ounce and a half.

Spring water, fifteen ounces.

Boil them on a slow fire for ten minutes, towards the close throwing in

Gum arabic, two drachms;

then add to the strained liquor, of

Compound tincture of bark, two ounces;

or of

Tincture of columbo, two ounces.

Mix the whole, and take from two to three ounces every hour.

No. 11.

THE SAME.

Take of American extract of bark, two drachms;
of the Decoction of bark, eleven ounces;
dissolve them together, and add, of

Compound tincture of bark, one ounce;

White sugar, six drachms.

Mix the whole, and take from two to three ounces every hour.

No. 12.

COMPOUND BARK DECOCTION.

Take of Peruvian bark, one ounce;

Virginian snakeroot, two drachms;

Spring water, eleven ounces.

Boil them on a slow fire for ten minutes in a close vessel, and to the strained liquor add

Compound tincture of bark, two ounces;

White sugar, two drachms.

Mix the whole, and take two ounces every two hours, adding to each dose from half a drachm to a drachm of the powdered bark, if the stomach can bear it.

No. 13.

AMMONIATED BARK DECOCTION.

Take of Decoction of Peruvian bark, ten drachms;
Tincture of bark, two ounces;
Compound spirit of ammonia, three
drachms;
White sugar, half an ounce:
add, if required,
Laudanum, twenty drops.
Mix, and take from two to three ounces every
hour.

No. 14.

CORDIAL SEDATIVE BARK DECOCTION.

Take of Bark decoction with snakeroot, ten ounces;
Tincture of lavender, half an ounce;
L. laudanum, twenty drops.
Mix, and take from two to three ounces every
hour.

No. 15.

CORDIAL AROMATIC MIXTURE.

Take of Cinnamon water, one ounce and a half;

Aromatic confection and æther, each one
drachm;

L. laudanum, twenty drops;

White sugar, one drachm.

Mix for a draught.

No. 16.

ALTERATIVE DIURETIC PILLS.

Take of Purified quicksilver, one drachm;

Gum arabic, two drachms;

Rub them well together till the globules totally
disappear, then add,

Dried powder of squill, half a drachm;

Liquorish powder, sufficient to form sixty
pills.

Take four every night at bed-time.

No. 17.

ANT-ACID TONIC MIXTURE.

Take of Chamomile flowers, half an ounce;

Prepared kali, two drachms;

Boiling water, eight ounces.

Strain the liquor, and take from two to three
ounces three times a day.

No. 18.

SUDORIFIC POWDER.

Take of Ipecacuan powder, ten grains :

Tartarized antimony, two grains.

Mix together, and take from six to twelve grains every hour, till it operates.

No. 19.

PURGING MIXTURE.

Take of Warm decoction of tamarinds, eight ounces ;

Tartarized antimony, from two to four grains.

An ounce, a dose, every hour till it operates.

No. 20.

APERIENT SALINE MIXTURE.

Take of Vitriolated magnesia, one ounce ;

Boiling water, seven ounces ;

Lemon juice, half an ounce ;

Brandy, white sugar, each one drachm.

Mix, and take it in divided doses.

No. 21.

CASTOR OIL DRAUGHT.

Take of Castor oil, one ounce and a half;
Brandy or compound tincture of cardamoms, half an ounce.

Mix, and take in divided doses, shaking the glass before each.

No. 22.

SUDORIFIC PILLS.

Take of Ipecacuan, from eight to twelve grains;
Tartarized antimony, from one to two grains;
Conserve of roses, sufficient to form eight pills.

Two to be taken every three or four hours.

No. 23.

THE SAME.

Take of Powdered opium and ipecacuan, each a drachm;
Conserve of roses, sufficient to make sixty pills.

One, two, or three a dose, occasionally at bed-time.

No. 24.

THE SAME.

Take of Calomel, ten grains;
Tartarized antimony, one grain;
Conserve of roses, sufficient to make two pills.
One to be taken occasionally.

No. 25.

CORDIAL AROMATIC BARK MIXTURE.

Take of Powder of Bark, one ounce;
Cascarilla, half an ounce;
Spring water, a pound:
to be boiled for ten minutes, towards the close
throwing into it, of
Cinnamon bark, one drachm;
then to the warm strained liquor add, of
G. Arabic, two drachms;
Tincture of bark, two ounces.
Take from two to three ounces every two hours,
and adding occasionally a few drops of laudanum,
if necessary.

No. 26.

MUCILAGINOUS FEVER DRINK.

Take of Powdered starch, six drachms;
Spring water, three pounds;
boil to two pounds, and towards the close add, of
Cinnamon bark, one drachm;
Gum arabic, one ounce and a half.
To be used as ordinary drink.

No. 27.

COLUMBO MIXTURE WITH AROMATICS.

Take of Columbo powder, one ounce;
Dried orange peel, half an ounce;
Cinnamon powder, two drachms;
Brandy, two ounces;
Boiling water, six ounces.

Mix, for a quarter of an hour, then strain the liquor, and take two ounces twice or thrice a day.

No. 28.

PLENCK'S SOLUTION.

Take of Purified quicksilver, a drachm;
Gum arabic, three drachms;
White sugar, a drachm.

To be rubbed in a glass mortar till the globules disappear, then gradually add, of

Spring water and cinnamon water, each
four ounces;

White sugar, three drachms.

Take one or two table-spoonfuls every night,
first shaking the glass.

No. 29.

ANTI-RHEUMATIC MIXTURE.

Take of Gum guiac, two seruples;

Mucilage of gum arabic, one drachm:
when well rubbed together, add

Spring water, one ounce;

Powder of julep, five grains;

Simple syrup, one drachm.

Mix into a draught, and take when costive.

No. 30.

STIMULATING LINIMENT.

Take of Camphor, two drachms;

Olive oil, one ounce;

Spirit of ammonia, two drachms;

Tincture of cantharides, three drachms.

Mix to form a liniment.

No. 31.

TONIC CORDIAL DRAUGHT.

Take of Rhatany powder, ʒij;
Peppermint water, one ounce and a half;
Volatile spirit of ammonia, twenty drops.
Mix into a draught, to be repeated every two or three hours.

No. 32.

MIXTURE OF THE SAME.

Take of Rhatany powder, two ounces;
Bark ditto, half an ounce;
Camphorated mixture, five ounces;
Acetated water of ammonia, two ounces.
Mix—three large table-spoonfuls, a dose, every three or four hours.

No. 33.

DIAPHORETIC PILLS.

Take of Ipecacuan, six grains;
Extract of white poppies, twelve grains:
form the mass into six pills, of which take one every quarter of an hour.

No. 34.

STOMACHIC DRAUGHT.

Take of Rhubarb, fifteen grains;
Calcined magnesia, twenty-five grains;
Cinnamon water, an ounce and a half.
Mix, and form a draught.

No. 35.

SEDATIVE CLYSTER.

Take of Thin starch, twelve ounces;
Laudanum, twenty drops;
Extract of lead, twelve drops.
Mix into a clyster.

No. 36.

ALTERATIVE RHATANY MIXTURE.

Take of Sal Polychrest, one drachm;
Decoction of rhatany, seven ounces;
Aromatic tincture of ditto, seven drachms;
Extract of liquorice, a drachm and a
half.
Three large spoonfuls a dose, every four hours.

No. 37.

TONIC RHATANY MIXTURE.

Take of Infusion of rhatany, six ounces ;
Diluted sulphuric acid, one drachm and a
half; or
Nitrous acid, three drachms;
Compound tincture of rhatany, two
drachms.
Mix. Three large spoonfuls a dose.

No. 38.

SALINE DRAUGHT.

Take of Salt of wormwood and concrete acid of
lemon, of each one scruple ;
Simple peppermint water, and pure water,
of each one ounce.
To be taken every three or four hours. Mix.

PART II.

STATE OF CLIMATE AND WEATHER IN THE WEST INDIA SETTLEMENTS.

THE climate of the West Indies is more subjected to variations than the East, and the general healthiness or unhealthiness depends much on the situation of the different islands. In all the islands, the heat is tempered by refreshing breezes, that render it more supportable than might be expected. The land breeze, or, as it is emphatically termed, the Doctor, blows during the day, and the sea breeze supplies its place at night. The degree of heat measured by Fahrenheit, varies from 73 to 88, all the year round. The rainy season is here, as elsewhere, the chief period of disease, which continues to pour down in torrents for not less than six weeks at a time. In this climate it has been ascertained that the European constitution has one degree and a half less heat than in its native atmosphere and at least two degrees less than the Negro.

In the West Indies, the vernal season may be said to commence with May. The parched savannahs soon change their aspect from a withered

brown to a fresh and delightful green. Gentle southern showers gradually set in, which falling about noon occasion bright and rapid vegetation. At this period the medium height of the thermometer is 75. After these vernal showers have continued a fortnight, the season advances to maturity, and the tropical summer burns in its full glory. During some hours in the evening, before the sea breeze has set in, the heat of the sun is fierce and intolerable; but as soon as this agreeable wind arises, the extreme warmth is abated, and the climate becomes even pleasant in the shade. The thermometer now stands from 75 degrees at sun-rise and 85 at noon. But whatever inconvenience the inhabitants of the West Indies suffer from diurnal heat, it is amply compensated by the beauty and serenity of the nights. In November and December the north winds commence, at first attended with heavy showers of hail with it, but the atmosphere brightens; and the weather, till March, may be called winter. It is a winter, however, remote from the horrors of northern severity, cool, and wholesome. Thus the medium temperature of the air in this climate may be said to be about 75 degrees of Fahrenheit, and a certain degree of equilibrium takes place round the whole year, from the insular situation, which does not take place in a continent like India, where sudden transitions are so common. But to be more particular in the state of the weather. The thermometer at sun-rise is commonly in the cool season at 72 degrees,

rising to 75 or 78 in the middle of the day. In the hot season, the common range is from 76 to 88. It seldom exceeds this in the shade at sea, or in the greatest heights in which it is observed on land in the shade, is it above 87 or 88.

WEST INDIA DISEASES.

In the West Indies as in the East, fevers and fluxes form the great epidemics that devastate the islands, and particularly affect the white population.

The fevers of the West Indies are reduced to three kinds; the common fever, or typhus; the ship, jail, or putrid fever, and the great epidemic, the yellow fever. The two former exhibit here nothing different from their appearance already described in the first division of the work. The latter is, therefore, the only one to be here detailed.

YELLOW FEVER.

This fever, so fatal, is peculiar to new comers more than others. It attacks suddenly with alternate fits of heat and cold, violent pain in the head and back; the face is highly flushed; the eyes are red and watery; the features have a peculiar look, denoting great anxiety and dejection; and this morbid appearance of features continues till recovery takes place. The pulse at first is frequent,

full, and hard, sometimes irregular. The heat of the body is greatly increased, and much inquietude is discovered by the patient. The continuance of this state is uncertain, being sometimes only for a few hours, at other times for some days; and as these symptoms decline, an irritation of stomach comes on, so great as hardly to be subdued or allayed. This state of stomach is then the only complaint, in consequence of the abatement of all the other symptoms, but it continues violent, and at last terminates by the vomiting of a black matter, succeeded by a yellow tinge of skin, first appearing in the eyes and neck, and then extending over the whole body. This, though not a constant symptom, is very general, and blood next flows from the mouth and nose, preceded commonly by delirium, with great restlessness and inquietude, ending in total insensibility or convulsions, which ultimately close the scene of sufferings. The peculiar characteristics then of this fever are its sudden attack without any previous symptom or indisposition; its being without remission or abatement in its progress; the peculiar anguish it discovers about the precordia, and the extreme torpor produced by it in the intestines.

This fever attacks Europeans mostly within the first eighteen months after their arrival, they being almost exclusively obnoxious to it, which shews there is something in the European habit favourable to the morbid action, which constitutes the disease, and persons seasoned to the climate, and even na-

tives, by changes in their mode of life, sometimes acquire this predisposition. Persons also, though long inured to this climate, are apt, after visiting a northern atmosphere, to suffer on their return an attack of it the same as the new comers.

The treatment of this disease will be best conducted by immediately confining the patient to bed on its attack, and administering an opening clyster. Calomel and jalap are then to be given in a full dose, as in Number first, to act on the bowels, and assisted by subacid drinks, with tamarinds and cream of tartar, and if not sufficient to keep the bowels free, the dose is to be repeated in five or six hours. If the symptoms indicate, the head is next to be shaved, a blister applied, and the state of the skin to be attended to by giving full doses of calomel and antimony, as in No. 2, every three hours; while in the meantime mercurial frictions are likewise begun, two drachms of the strong ointment being rubbed into the lower extremities every three hours. If no alteration occurs in twelve or eighteen hours, the frictions are to be continued with the addition of ten grains of calomel, combined with jalap; should the bowels not be free, and joined with a grain of opium if they are too loose. Diluents are then to be frequently given, and the above plan persisted in till the mouth is affected. Providing no remission of symptoms occurs, when the irritation of stomach is great, a capsicum plaster or blister, is to be applied over it, and ether given

in barley water, or a saline draught. The quantity of mercury required, both in friction and by mouth, is often considerable before the salivary glands are affected, or any remission of the disease appears; but for the most part the abatement of fever and irritation of stomach is connected with the influence the medicine discovers on the mouth, and even then the effect it produces should be kept up during the above course. Ablution of the body should be performed with cold vinegar and water, when it is hot and dry; but this practice should be discontinued the moment moisture appears. The above plan of treatment is the most successful one yet discovered: and the only inconvenience of it, the soreness of the mouth, is easily alleviated by gargles, as in No. 4. When the fever abates, food and wines are chiefly to be trusted to for their recovery. As the cure of this fever is so difficult, its prevention becomes an object of great importance. The young and athletic, on their first arrival, should lose some blood in proportion to what they can bear, the bowels should be kept clear, and all intemperance avoided, particularly in their exposure to the air, and evening damps. As the sea-shore and shipping form the great scenes of infection, a cold dry air in the country is the most eligible situation to be chosen whenever this fever appears. Its mortality to new comers is indeed to be attributed much to their own imprudence, on entering into all the customs and manners of the climate before they

are seasoned, and before their constitutions are inured to encounter the excesses which act so powerfully as the causes of disease in this climate.

DYSENTERY.

This we have seen is one of the most fatal diseases of the East, and it is no less so in the West, where it is particularly produced among the negroes by crude food; hence its prevalence in the pear season, and when the yams come in, which they dig and eat prematurely. In the treatment here, procuring a free and full evacuation is the great point, and as it differs no way in its symptoms and treatment from dysentery already described, a reference may be here made to the first division of the Work under this head.

LIVER COMPLAINTS.

Though these occasionally occur in the West Indies, they are not so frequent as to require a particular detail; and being the great epidemic of the East, enough has been already furnished on their history and treatment.

DRY BELLY-ACHE.

This is a most frequent West India malady ; but less so than formerly, from the change of diet and clothing which has taken place. It has been imputed here as elsewhere to a solution of lead in the rum ; but it attacks equally those who never used that liquor. At the same time, it is perhaps, a cause with the soldiery, who indulge in it to excess ; but cold, after over-fatigue and excess of heat, to which soldiers are particularly exposed in their barracks, are a more frequent cause than the former ; the disease neglected or ill-treated, is attended with dreadful effects, and the patient under this malady suffers the most excruciating torments for days, and sometimes for weeks, without any evacuation by stool, and afterwards loses all power in his arms and hands, and sometimes in his legs also. In its treatment, the first step is to relieve pain, and stop the violent retching. This is best done, by first unloading the stomach by chamomile tea, or other mild means, and then giving some essential oil, as a few drops of peppermint, or what is more powerful, a dose of laudanum, to the amount of forty or fifty drops, or a two grain opium pill. As soon as the pains and retching abate, which may be assisted by the warm bath, opening medicines are to be administered, as in No. 6, three of which pills are

to be given every three hours, until they operate; and in the mean time, clysters of castor-oil thrown up; and also the emulsion, No. 3, given in a cup-full at a time, and repeated every hour, till stools are freely procured. The patient is then to be supported with proper nourishment and wine, and care taken that no return of costiveness occurs, by the daily use of castor-oil. A peculiar method of giving castor-oil takes place here: equal parts of it and rum are mixed, it is then set fire to, and after burning half a minute, is extinguished; in this form it is given every two hours, till it operates; on the removal of the disease, the strength will be restored by the use of bark and tonics as a tea-cup full of the infusion of Columbo, three or four times a day. Several remedies of West India growth are reckoned specifics in this disease, and used accordingly, as the wild cassada, &c.

The consequence of this disease is palsy of the limbs, which is often incurable. Young people, in time, for the most part recover; but the old, never regain the use of their limbs. The warm bath, and Bath waters, are in these cases the best resource; but a voyage home, or to a cold climate, is more successful than any other means; and when this cannot be obtained, recourse must be had to the limited powers of tonics.

RHEUMATISM,

Is a disease very frequent in the West Indies, and as its great cause is cold, partially applied after much heat and perspiration, so this cause particularly exists in the West Indies, from their houses being so constructed, as to be favourable to a draught of air, from the sudden changes of weather in certain months, during which, the North winds prevail, and from the chief occupations of the inhabitants, who either pass a sedentary confined life, which renders them susceptible of the slightest impressions from cold, as clerks, &c. or, on the contrary, are much exposed to the open air at all seasons, and at night hours, as bookkeepers and others. The treatment in the first division of this work, applies equally here.

LEPROSY AND COCOBAY, OR JOINT EVIL:

This is a common disease in the West Indies, and considered here of an infectious nature. Its first symptoms are copper-coloured spots on the skin, like leprosy elsewhere, with insensibility, or total want of feeling in the affected parts. Tuberculous tumours appear on the lobes of the ears;

the hair of the eye-brows falls off; the nostrils and lips become swelled and enlarged; distortion takes place in the smaller extremities, as the fingers and toes, which pass into ulceration; and in the progress of time drop off. The lower extremities swell to an amazing size, and are marked with tumours, ulcerations, and fissures, in different parts. Betwixt the appearance here and elephantiasis there is this difference, that there is left no appearance of scales, a distinguishing characteristic of the former. In general the white inhabitants of this country are exempted from this disgusting malady; but some instances of it occasionally occur in the Spanish settlements; it is a prevalent disease among all ranks, and those affected with it form a particular community of themselves; for it is not only infectious by contact, but even hereditary. The victims of this disease are distinguished by an uncommon share of libidinousness, and the shocking stories related of their conduct is disgusting to decency.

Whatever the nature of the disease be, or the particular poison that generates it, no certain cure or mode of treatment have been yet discovered; occasional instances of recovery have taken place under different modes of management; thus the inhalations of oxygen gas succeeded in one instance; in four cases a cure was effected by nitrous acid and the muriate of pot-ash; with a solution of nitrate of pot-ash in vinegar, have also been recommended; but the arsenical solution, No. 7, in the Dispensa-

tory, promises to be more efficacious than any other means. In this malady, as a popular vegetable remedy, the bastard cedar of Jamaica has been long celebrated. In proportion as the regular practitioner fails to cure, the number of country remedies increase, which is the case with this as with every other incurable malady. The country remedies particularly used will be seen in the Dispensatory.

ITCH.

This is not a frequent disease in the West Indies, and is seldom seen among the Negroes. Where it does appear, it seems to occupy a different situation than what it does in Europe. Instead of the fingers, mouth, and joints, it occupies here the body. In Negroes its principal seat of attack is the buttocks, where it sometimes proceeds to the length of deep ulcerations. But though the Negroes are not so liable to the common form of itch, they are apt to suffer from a peculiar affection falling under this denomination, termed *Craw Crams*. This disease, however, is more a constitutional malady than the other, and accordingly does not readily yield to the remedies which are most successful in the treatment of itch. The most effectual remedy here is the vervain juice, joined with rubbing the part with bruised leaves of the stinking wood. The common itch in the West

Indies, as elsewhere, yields always readily to the use of sulphur, and mercury is an unnecessary remedy. The sulphur may be employed in the dose of a teaspoonful every night, or the parts rubbed with sulphur ointment; and the same effect will follow the use of a dilute wash of white vitriol, or the application of the white precipitate outward, should the sulphur be disliked. The sudden repulsion of itch, as of any other cutaneous diseases, is always to be avoided.

RING-WORM AND HERPES.

This is a much more frequent disease than the former, and much more obstinate of cure; for, if neglected, it sometimes spreads and becomes a most severe complaint. It is frequently an effect of fever, and occurs during the period of recovery. It shews itself in certain parts of the same island more than in others, and is certainly of an infectious nature; the infection being particularly received by frequenting the same necessary, which is found by its appearances about the buttocks or genitals. The same remedies will also cure the individual at one time which prove unsuccessful at another; but whatever means are employed should be persevered in for some time after the disappearance of the disease.

The remedies are here the same as recommended in itch. For where the disease occupies but a small spot on the face, hands, or arms, it may be frequently cured by very simple and familiar remedies, as the application of ink, gun-powder, lime juice, ketchup, &c. The oxygen ointment and the arsenical solution, in obstinate cases are highly successful applications; as also a solution of borax in acetic acid.

GUINEA WORM.

This is a frequent disease in the West Indies, affecting the lower extremities, and the ulcerations produced by it are often of a dangerous and highly alarming nature. The animalcule producing this affliction possesses the power of passing rapidly among the muscles and intestines from one part to another.

This disease indeed is very frequent in all tropical climates, particularly on the coast of Africa, and is pretty uniform in its appearance. The patient is at first sensible of an itching; and, on examining the part, a small blister is generally to be traced, and frequently two or three of these blisters manifest themselves; and at times the part has the appearance of being stung with nettles. Beneath these blisters, or vesications, on raising the skin,

there appears a piece of mucus, of the breadth of a sixpence, on removing which the head of the worm is to be seen.

It is generally firmly attached, and requires force to detach it from the parts beneath. When once detached with the forceps, it can be twisted round a ligature, or piece of lint, and by this means a portion of it, a foot or two in length, may be extracted in the course of one day. In its appearance it resembles what is called bobbin, or small tape, and is of the same size. It is transparent and moist, and appears to contain something like white liquid. As much of it as will come away without pulling, is to be daily extracted. It is always dangerous to use force, on account of the risk of breaking the worm. When this accident happens, it occasions the most acute pain, accompanied with swelling and inflammation of the neighbouring parts; and these symptoms will often continue for two or three weeks. In this case the worm also takes a different course, and soon shews itself in another part. The seat of the Guinea worm is generally under the cellular membrane; but at times it makes its way into the fascia, and under the muscles. If fever do not arise at the commencement, it is always attendant on its course, and is often considerable when inflammation runs high. This malady frequently ends in mortification, when large sloughs are thrown off. At times, when the worm takes a particular course, alarming hæmorrhages ensue.

The consequence of its appearing in different places, is the production of so many ulcers, or fistulous openings ; and thus the whole member is at length affected, and a profuse suppuration ensues. The worm then comes away dead, or is discovered in pieces upon the matter. After one worm has been brought away, a succession of others will frequently appear in the same patient, and similar effects arise from each of them. Every part of the body is occasionally the seat of this disease, but the extremities in particular ; and in this preference the worms in question appear somewhat to resemble the itch. The cause of their production, like that of other similar insects found in the body, it is not easy to trace. It has been ascribed to the water of the different countries in which they appear, but on no just grounds. Extreme cleanliness, however, is always a certain preventive. The treatment of the Guinea worm constitutes a particular business of the native doctors in India and Africa. In the extraction of this insect they are eminently successful, and it requires a particular art. They first feel with their fingers for a long time, for the body of the worm, and proceed to make an incision, as near as they can judge, over its middle. The worm is now extracted by its duplicature, and both ends come out at the same time. This practice it is difficult for an European to imitate, as he does not possess the same nice feeling as the Indian. If, however, an incision be made in the same accurate manner, so

as to get at the middle of the worm by the means of a pair of large forceps, it may be pulled out in considerable portions, and frequently in an entire state. To obviate the inflammatory symptoms attending this disease, leeches, sedative and astringent lotions, cataplasms, fomentations, &c. are applied, as required by the circumstances of the case. A good deal of attention should be paid to the malady in all its stages; but the most successful treatment will be found to reside in unctuous substances, particularly mercurial ointment.

CHIGOE.

This disease is from the introduction of a small insect under the skin, so extremely minute as not to be seen without the assistance of a microscope, which always attacks the feet and joints, and introduces itself imperceptibly into the flesh, where it shortly makes a nest. And what is more surprising, is its prolific nature; for in 24 hours, millions of the same species are generated within cellular bags, forming a complete circle. It is, however, usually extricated in a few hours after its lodgment, and before it has time to more than insinuate itself. The Negroes are very expert in performing this operation, and seldom give any pain.

It is very astonishing that the natives themselves will not have it extracted after discovering it, but feel a particular pleasure in the sensation it gives for a certain time; after which they have it extricated.

VENEREAL DISEASE.

This disease is milder here than in Europe, and is also more easily cured; and on this account is apt to be neglected in its early stages. The local complaints are often so slight, that the constitutional disease is formed without being suspected, and the usual appearances in the throat not being so common as in Europe, it passes to the jaws before its real entrance into the habit is detected. Among Negroes in particular, the disease is often latent, and is so inveterate when it does appear, as to baffle every means of recovery. From this circumstance of its mildness, it often lingers in them to old age; and in the progress of its action during this period, is communicated to their offspring. This hereditary lues amongst Negroes is not always apparent in infancy, or it disappears and again shews itself at the age of puberty; when before any sexual intercourse can be suspected, the victims of it complain of pains in their bones, and frequently lose the nose, the palate, and other-parts. On some estates whole

families are carried off in this manner by this hereditary form of the malady.

Though the disease is in general mild, except with the white inhabitants, the cure is more difficult than in Europe, owing to two circumstances, irregularities on the part of the patient, and exposure to cold. In the treatment of the disease in the form of gonorrhœa, all that is necessary in most cases is cleanliness, rest, and abstinence, with the use of mild astringent injections towards the termination of the malady.

The consequence of Gonorrhœa is often great irritability, and deranged sensations, which require the use of the cold bath, or, as recommended by Hufeland, oily frictions. Chancres in a warm climate are apt to shew a tendency to mortification. Wherever this is the case, mercury is to be suspended, till the symptom is removed, and the usual treatment by bark, wine, and acids, trusted to, till the gangrenous disposition is past; then escharotics applied locally, and a gentler course of internal medicine is to be employed and continued.

In the constitutional lues, the use of frictions is found in a warm climate, to be the best; and though mercury is the only medicine to be trusted, yet in the West Indies, there are various country remedies, which possess strong antisiphilitic powers.

YAWS.

This is a disease peculiar to the West Indies, and highly infectious. Its appearance, therefore, should be well understood, to guard against being exposed to its attack. It seldom shews itself without some previous indisposition or feverish attack to usher it in. The patient first complains of pains in his bones, feels languid and listless. His skin, which is generally dry, changes its color, and becomes turgid, with various spots, for some time previous to the appearance of the real pustules, the characteristic of the disease, and which are so peculiar as hardly to be mistaken. Whenever, therefore, a white cardaceous pustule, or slough, appears about the anus or genitals, the disease may be suspected, and the person should be placed in that situation as not to communicate infection to those round him.

This disease is endemial in Africa, and it is more readily received by the black than the white individual; and even in the latter, where it attacks, it shews itself a milder affection.

The cause of this disease is a specific contagion received by inoculation, and so subtle is the matter conveying it, that neither a wound nor ulceration is necessary to introduce it. At the same time, the analogy between it and small-pox, as usually made,

does by no means hold, for the matter of Yaws, cannot be received by the atmosphere as the small-pox, and contact proves a necessary prelude to its introduction. The duration also of the disease is not here limited as in small-pox, and the Yaws are apt to return, which rarely takes place in small-pox. The disease exists under different shapes, or assumes different appearances; and it is accordingly divided into different kinds, from this variety of appearance; but as none of these affect its nature, or influence its cure, the barely mentioning the circumstance, is sufficient.

In the cure of no disease, is there so much neglect and mal-practice as this; but the principles on which it ought, in all cases to proceed, is supporting the constitution by a proper diet, and in giving a proper determination to the surface, in order to favor the termination of the malady.

The diet should be chiefly of the farinaceous kind, with a proportion of animal food, in a stewed form, or as soups. This should be joined with moderate exercise; and as a tonic, the use of the bark will be found beneficial.

The second consideration is, a regard to the state of the surface; and the chief one, the use of the warm bath should be strictly had recourse to. These means are to be joined with warm cloathing, and an attention to cleanliness, by which conjoined plan the cure of the disease takes place, entirely without the aid of medicine, and that in the short period of a few

weeks ; which, if left to itself, will require a period of two, three, or four years, and then continue its baneful consequence to the constitution for life.

A curious fact has been observed with respect to this disease ;—its disappearance from the attack of small-pox. Hence in cases where small-pox has not formerly attacked the patient, this disease should be communicated as a means of cure.

The general plan of treatment here, is the mild use of mercurials, which recommended by some, not to be given in the early stage of the disease, is without foundation ; but they may be administered from its first appearance, keeping them up to have a sensible effect on the skin, according to the practice in No. 2, of the Dispensatory. The course thus adopted is to be persisted in, till all the symptoms disappear. The use of local applications is to be confined to the decaying stage of the disease, or after it has attained its height, and the eruption is fairly out ; then mild or strong escharotics are to be employed to reduce the fungus to an even surface with the skin, as directed in the prescriptions for this disease.

Where the Mammy or Master Yaw remain obstinate, the oxy muriate of mercury sprinkled upon it, and then dried with escharotic ointment, will reduce it, and complete the cure. Each Yaw must first have the callous parts removed by incision, and then be dried with escharotics, as already ob-

served. The extracted juice of the Dumb Bane, is a country remedy for this affection, as well as of the stinking wood.

EXTERNAL ULCERS.

Ulcer is a frequent disease among the negroes, and the number that are lost annually in certain estates, become a great loss to the owners, in consequence of the abridgment of labour. Indeed the tendency of every scratch and bruise with negroes, to turn into a sordid, or ill-conditioned ulcer, must be the effect of a particular habit of body, induced by improper diet, composed of too much crude vegetable matter, without a proportion of animal food, or of animal food of a bad quality, or salted herrings, at first in a half putrid state. The diet is purchased by the sale of the pork and poultry they raise, and which is sold for the purchase of articles of less importance.

Another cause, is the inattention they shew to any slight injuries or wounds they receive by neglect, in taking out Cligoes, and their continuing at their usual labour, by which much inflammation is induced, and a bad sore brought on. It would be of much consequence then, and a great saving, if, on the least indisposition of this kind. the labour

of the Negro was suspended till the sore was well.

Soldiers also, as well as negroes, are very subject to ulcers in this climate, and partly from the same cause, the use of an improper and salted diet, and especially their inordinate excess in wine. But, independent of all these causes, climate itself has an influence, from the relaxation and debility it naturally induces, so unfavourable to healthy action; or healing, either by the first intention, or by the formation of proper matter. A peculiar worm is also suspected at times, to be the cause of ulcer, as is found in Hepatitis.

Ulcers being of various kinds, require discrimination, in order to their successful treatment, and the applications which prove useful in Europe, are by no means attended with the same fortunate issue in the West Indies. Greasy ointments are always to be avoided, and in cases of simple ulcer, where the habit of body is good, it will be only necessary to apply to it a solution of lead, or white vitriol; dissolved in linseed, or cassada, and kept constantly moist. Indeed the green leaves of the Abuco tribe, used by the negroes themselves, are superior to any other application. Where, on the contrary, the habit of body is in fault, purges of calomel and salts, and cooling powders, will be necessary with the application of fomentations, and emollient poultices to the part. But in cases where the sore discovers a flaccid edge, pallidness of

skin, and a thin, offensive discharge, the local applications will not be useful, till the tone of the system is recovered by bark, wine, a good diet, and the sulphuric acid.

The dressings must be of an astringent nature, as the pulp of limes, sour oranges, and verdigris. In large ulcers of this kind, where there is much disposition to putridity, the bark and lime juice, on cassada poultice, with molasses, or charcoal powder, are highly beneficial applications, when joined with an alterative and antiseptic regimen.

The fungous ulcers, another kind that occurs here, may be dressed with a piece of cassada cake, dipped in a solution of blue vitriol, or of the oxymuriate of mercury; or they may be washed with the solution, and sprinkled with red precipitate powder; employing at the same time, some degree of pressure, by a thin sheet of lead, or a bandage.

These are the chief points in ulcers that require attention; and the practice recommended, will apply to every species that occurs, when there is no peculiar, or specific cause.

PECULIAR POISONS.

FISH POISON.

A peculiar poison is that from certain fish in the West Indies. The cause of this is uncertain, therefore, different species of the same fishes have been supposed; a point which can only be established by the investigation of naturalists. By others this quality is ascribed to the food of the fish, or their vicinity to copperas banks; an opinion rendered extremely doubtful, from the fact that the existence of such banks has never been satisfactorily proved. Fish possessing this deleterious quality are found in different situations, and often at a very great distance from land, while the bad quality is confined to particular fish, and not common to all which are found in such situations. That it arises from their pernicious food is therefore a much more probable conjecture, and it is further supported by several facts—but what that food is, remains yet to be discovered. It is a well-known fact, however, that the land crab, when taken near manchineel trees, is found, particularly in dry seasons, at one time safe, at another time poisonous, from feeding on the bark or leaves of that tree instead of other nourishment. The mountain crab is likewise dangerous at particular times of the year, from a similar cause. The inhabitants are so sensible of this, that

they never eat them unless they have been kept in coops a fortnight or three weeks, and purged with the physic nut leaves; a convincing proof that amphibia may acquire a noxious quality from their food, without inconvenience or danger to themselves. This poison would seem to reside particularly in the entrails of fish, for whenever the precaution is taken of gutting and salting them, as soon as caught, these effects are avoided, and the entrails themselves will afterwards poison animals, though the fish is perfectly safe. This poison seems more active at particular periods of the year, or at least a greater number of poisonous fish are met with at one time than at another. What is remarkable, with respect to this poison, it seems peculiar to certain species of fish, and to none else.

The species of fish in which it is peculiarly active, are what are termed in the West Indies, the black billed sprat, the barracuta, the yellow-billed sprat, the cavallee, the rock fish, the king fish, the smooth bottle fish, and sea lobster. The consequences attending this poison are in general very alarming, and in many instances fatal; some stomachs seem to be more susceptible of its action than others, and they almost immediately feel its effects; while the symptoms in others do not appear till two or three hours after the accident, and some escape their violence altogether.

The usual symptoms that mark fish poison, are heartburn, nausea, severe vomiting and purging,

gripes, cold sweats, fainting, and, in some, giddiness; the face in the meantime becomes highly flushed, and the eyes inflamed, attended with a burning heat and spasmodic twitches, which particularly affect the eyes, the sufferer often complaining that they are ready to start from their sockets. The burning which is felt in their face and eyes is extended to the palms of the hands, the tips of the fingers, and over the whole body, sometimes accompanied, and sometimes succeeded by a miliary eruption, or, by an efflorescence resembling the bite of a bug, but more extensive. The pulse, for the most part, is hard and frequent. This ardour of the skin, and a prickling in the hands and nose when immersed in cold water, are almost invariable symptoms of fish poison, and enable the practitioners to decide with confidence on the nature of the disease.

The neck of the bladder, urethra, and sphincter ani, appear to sympathize with the skin, as the patients often complain of a like ardour in these parts, with a difficulty of making water, strangury, and afflicting tenesmus.

When the violence of the disorder is somewhat abated, the cuticle begins to scale off in various parts of the body. At times a miliary efflorescence accompanies the ardour of the skin, without any evident desquamation.

The last and most tedious symptom, which may be rather considered as secondary, is an acute and shooting pain in the articulations of the knee, wrist,

anclcs, and sometimes in the cylindrical bones, with more or less swelling. It is distressing, at intervals, for years after every other trait of the disorder has disappeared, and is not unfrequently attended with dropsy.

Such is the ordinary course of the disease in its most favourable termination; but unfortunately this issue is not always so happy, for the health of some who escape its fatal effects is often so much impaired, that a foundation is laid for a train of other evils, and a visit to a cold climate is at last found necessary to restore vigour to their constitutions. The consequences ought always to be dreaded, and relief ought to be given immediately, as it is impossible to foresee the event with any degree of certainty. Much, however, may be learnt from the different symptoms, although they are liable to great variations, from a greater or less degree of irritability existing in the stomach, from the quantity taken, or from a greater degree of acrimony in the poison; for why should it attack some only slightly, and prove fatal to others.

The affinity of this disorder to cholera is so great, that it requires a considerable degree of practical knowledge to discriminate them. You must be led entirely by the appearance and sensation of the skin, as they are the only and safest guides; where no certain information can be collected of the food of the patient, or of the nature of the fish, it is of the highest importance to ascertain this distinction, as

a mistake might endanger the life of the patient. In cholera it is the duty of the physician to stop the progress of the disorder as soon as he can; whereas in fish poison a discharge of the deleterious matter is the first intention of cure, and should be promoted according to the strength of the patient. In the cure of this disorder two purposes are clearly pointed out, viz. to procure a discharge of the poison as speedily as possible, and to remove or alleviate the effects that result from it. The first can only be effected by medicines whose operation is quick and effective, and of all those a preference should be given to the vitriolated zinc, which, if timely administered, is alone sufficient to obviate the dangerous tendency of the poison. From the uncertainty, however, of its total removal, it is most prudent to succeed the emetic by a saline purge, and to continue a repetition of this so long as circumstances render such a repetition necessary. Where this plan is too violent, and the patient of a weakly habit, an anodyne must be frequently interposed before the complete removal of the disease, in order that by an interval of ease, the system may be invigorated, and the stomach enabled to proceed with the farther action of the medicine proper to remove the poison.

In alleviating the effects arising from the poison, no proper rules can be laid down, as the nature and violence of the symptoms must determine the mode of proceeding. Where the removal of the poison,

by a sufficient evacuation, has taken place, and symptoms of irritation still continue, anodynes both by the mouth, and clysters, as well as cordials, are indicated. The heat of the skin will be taken off by a general moisture, by the use of mild diaphoretics. The strangury will yield to a free use of mucilages, and the pains of the joints will be relieved by warmth, diaphoretics, and time. The oil of the bignonia is used by the Negroes as a specific against this complaint, and the Cayenne pepper has been known for a long time to possess the power of preventing or counteracting the poisonous effects of fish. Of all the fish, the poison of the yellow billed sprat is reckoned the most deadly, and most speedy in its operation.

It is of much importance, where fish forms such a principal part of diet as in warm climates, to be able to know, by certain previous marks, whether they really possess this deleterious state. The marks commonly trusted to, are,

1st. The holding a silver spoon in water in which they are boiled, which if not tinged by the liquid, shew they are safe.

2d. The giving the entrails to a dog, or other domestic animal, and judging of its effects on them ; and,

3d. The marks of discolouration on the fish, particularly the intestines, themselves, which is considered as a proof of their poisonous quality. It is

observed, also, that fish without scales are most liable to this taint.

From the whole of these observations, the fish poison seems to lie in a peculiar manner in the intestines. Though active in man, it is even more so in other animals; and its virulence is augmented by the process of putrefaction, or the longer the fish has been out of water. Hence the immediately gutting them when caught, has been known to prevent it.

VEGETABLE POISON.

The class of vegetable poisons in the West Indies is numerous, and from their use accidents often occur.

The Dumb cane and Manchaniel apple, are of this class; the former is so irritating, that it cannot be borne in the mouth; the latter is also said, to occasion in the stomach a sense of burning heat, and tendency to vomit.

The remedies are here only mixtures and emotions to attend acrimony. The poison of the Siconias is rendered innocent by mineral acids.

The Nightshade, or Savonna flower, is a narcotic poison, and its remedy or specific is a decoction of the baneful cucumber plant, two quarts daily.

Cassada, or Marnioc, though from the root is prepared an excellent bread, in its recent state is a deadly poison.

Its remedy is alkalis, and afterwards cordials and stimulants, as a solution of salts of tartar in mixture of chalk and water, succeeded by large doses of Cayenne or capsicum. Where the remedies are late employed, the patient, though he lingers, seldom recovers. In fact, vegetable acid is the antidote for vegetable poisons, either vinegar or lime juice.



NEGRO DISEASE OF EARTH EATING.

This disease resembles the chlorosis, or green sickness of females. The victims of it complain first of pain in the stomach, then breathlessness on the least motion, attended with visible pulsation of the carotids or arteries of the neck: they next become bloated; the nails and palms of their hands become white, and their lips and gums appear pale, shewing a want of red globules. The continuance and increase of these symptoms proves fatal sometimes in a short period, at other times by the aid of medicine, the fate of the patient, though protracted, never terminates in recovery.

The habit of dirt eating among Negroes generally arises from dissatisfaction of mind, as a change

of master, dispossessing them of their friends, shifting their residence, particularly from the low lands to the mountains; but the most frequent cause of all is charms, or witchcraft, and this habit is practised secretly and clandestinely, nor is there almost a possibility of detecting them, nor can they be brought to acknowledge it. It is therefore a voluntary disease, and in bringing it on they confine themselves at first to one kind of earth, but afterwards they devour different kinds promiscuously. Hence quickly follows that state of body described, from which there is no recovery.

In the management of the disease, the cause of complaint or dissatisfaction should be done away, for if this is not the case, though the eating might be prevented, the prohibition will have the same influence.

With respect to medical treatment, little can be done. The disease is evidently characterized by a torpor of the system, and particularly of the absorbent vessels. In this case, small doses of mercury may be tried, which will give activity to the small vessels; but unless the practice is abandoned, there is little success to be expected.

ADVICE TO NEW SETTLERS IN WARM CLIMATES.

Daily observation has established it as a fact, that Europeans may live to an advanced age in warm climates, provided they will observe a few necessary cautions at first, and afterwards live regular.

During the months of January, February, and March, the air in the West Indies is much drier and cooler at the same time, than at any other period of the year. Every European who can make his election should therefore endeavour to arrive during this season, as he will then be exposed neither to very wet weather nor the great heat of the summer. If a choice of residence can also be made, that situation which is the most elevated, dry, open to the air and sun, and remote from stagnant waters, or marshy grounds, ought certainly to be preferred.

Most of the towns in the West Indies are built on very low ground, and are often annoyed with swampy and noxious exhalations: of course, they frequently prove unhealthy to new comers, particularly in the rainy months. These persons should therefore pass as little of their time as possible in such a situation, and if obliged by business to resort there in the day time, they ought to retire every evening to one that is more elevated. The highest

apartments in the house should be made choice of to sleep in, and in moist rainy weather, it may be furnished with a small stove, in which a fire should be kept. Smoaking freely of tobacco, and drinking wine in moderation, will likewise prove serviceable. Huxham's tincture of the bark, and other warm stomachic bitters, may also be used with advantage.

The dress of new comers should consist of coats made of ladies' cloth or kerseymere, with waistcoats and breeches of light washing materials, such as dimity; whatever is worn next to the skin should be made of cotton in preference to linen, as this last is very apt when moistened with perspiration in consequence of any severe exercise, to convey a great chill: when the person has sat still for a short time cotton shirts will therefore be preferable to linen ones. During my residence in the West Indies, I was acquainted with several gentlemen, who constantly wore two shirts at the same time, the upper of which was made of linen, and the under of cotton, from which precaution I observed they were less liable to the diseases arising from obstructed perspiration than those who did not make use of it. Those who are afflicted with rheumatic complaints may wear short jackets made of flannel instead of cotton; and although some little inconvenience may perhaps be experienced at first from the itching which it is apt to occasion, yet after a very short time it will entirely cease. Too much caution can-

not be observed both by long residents and new comers in changing their linen and other clothes as soon after getting wet as possible : a circumstance too frequently made light of and neglected, but which, however, often proves fatal to many. Washing the feet with a little spirits of any kind, when they happen to get wet, putting on dry stockings as soon as possible, and drinking a little warm tea after getting into bed, will often prevent colds and other bad consequences from ensuing.

The diet of Europeans, on their first going into a warm climate, should consist of a proper mixture of vegetable and animal food, letting the scale predominate rather in favour of the former than the latter, and taking care to avoid all such things as have a tendency to dispose the blood to putrefaction. The custom so universally followed by the Creoles, of daily eating salt meat for dinner, and of serving up ham or other salted things for breakfast, is undoubtedly highly pernicious to the constitution, and never fails to create a very great thirst during the whole of the day. Under the head of *Diet* it will be proper to mention, that a free use of ripe fruit is highly proper in all warm climates, as they will correct that tendency in the fluids to putrefaction, which naturally prevails.

The usual liquors which are drank at dinner in the West Indies, are punch, and rum and water, commonly called grog ; and these are used in the same quantity and free manner, as beer and porter

in cold countries. Weak punch made of ripe fruit, clear syrup, and good old rum, is certainly a refreshing pleasant drink, well adapted to a warm climate. But there are constitutions with which all acids disagree, and therefore many people, for this reason substitute rum and water. The misfortune, however, that attends most of those who make use of the latter, is, that although they perhaps begin at first with a moderate and proper quantity of spirits, yet as by habit and custom, it grows insipid and tasteless to their palates, they are induced gradually to increase it, till they bring the mixture at last to very near equal parts of rum and water. No new comer should accustom himself to drink either punch or grog before dinner, as is the usual custom in the West Indies; if at any time before dinner it should be found necessary to assuage the thirst, either a beverage composed of preserved tamarinds, or a little Madeira wine, sufficiently diluted with water, may be drank for the purpose; but I beg leave at the same time to caution all persons against either taking large draughts of cool liquor of any kind, or exposing themselves to a current of air when violently heated by exercise. Many people on their first going into a warm climate, particularly on ship-board, are apt to become very costive; when any such inconvenience arises, some gentle laxative, as lenitive electuary, should be taken, so as to procure a stool or two daily; and if not sufficiently powerful in its operation, a few grains of

jalap may be added. Riding on horseback and walking, are the only exercises that should be taken by new comers, and these should be used in the cool of the mornings and evenings. Dancing is an amusement that ought not to be engaged in, for as it usually occasions a profuse perspiration, they are unavoidably exposed to the moist air of the night on their return to their respective homes; as in most of the islands no other carriages are made use of but open ones. Europeans newly arrived should retire to rest at a proper hour, and they should regularly practise early rising. Hair mattresses should be preferred to feather beds for sleeping on, as the latter from their warmth have a great tendency to produce a considerable degree of relaxation. Where a natural cold bath can be procured, it should be made use of every morning, and where it cannot, an artificial one may be substituted.

The great hospitality of the islanders frequently proves the source of much evil to strangers; for they are no sooner arrived, than they immediately engage in a daily round of visiting and feasting; during which they are apt to commit excesses, productive perhaps of a severe fit of sickness, that terminates fatally. To all such I would therefore recommend a moderate indulgence in the delicacies of the table; a very temperate use of all vinous and spirituous liquors, a great circumspection and self-command in sensual pursuits, and carefully

avoiding all exposures to the night air. Notwithstanding every precaution, it may happen that some slight feverish disposition will arise ; on such an event an abstemious regimen, confinement within doors, and taking a dose or two of some cooling purgatives, such as manna, or cream of tartar, will be highly proper. If the person is young, and of a full habit of body, drawing off a few ounces of blood from the arm will remove the complaint ; and if there ensue a smart attack of a fever, recourse must then be had to the means recommended under the head of *Acute Fever*, or under that of the *Yellow* or *Bilious*, when accompanied with symptoms which point out a tendency that way.

Some people on their first arrival suffer much from an eruption called the prickly heat. This makes its appearance in numerous red pimples, dispersed over different parts of the body, which are accompanied with an intolerable itching, and parching heat. The complaint is, however, more troublesome than dangerous, provided the eruption is not suddenly repelled.

All exposures to cold, moisture, and partial currents of air, should therefore be carefully avoided. The use of high seasoned meats and heating liquors, will be improper. It may be necessary to take some gentle laxative now and then, in order to keep the body open. The nettle-spring is another eruptive complaint, with which new comers are apt to be attacked. It makes its appearance in large

lumps, resembling the sting of nettles, or bug-bites, and is attended with a considerable degree of heat and itching: like the former, it readily gives way to a cool regimen, rest, and the keeping the body open. Europeans on their first going out to the West Indies, usually experience great inconvenience from the bite of the musquito, a species of gnat. On whatever part this pitches, it immediately produces a small tumour, which is attended with so high a degree of itching and inflammation, that the person cannot refrain from scratching it, and by frequent repetition thereof, often produces an ulcer; but this evil is most apt to take place in those of a robust and plethoric habit of body. To allay the itching, the parts may be bathed with a little camphorated spirit of wine, laudanum, or a weak solution of Goulard's extract of lead and water. About a tea-spoonful of the former, to six ounces of the latter, will be a proper proportion of each. To abate the inflammation, it will be necessary to keep the body constantly open with cooling purgatives, and to confine the person to a very spare diet. Those who suffer much from these bites, should constantly wear gloves and long linen trowsers by day, and by night, they should sleep under cover of what is called musquito net, which being usually made of thin lawn or gauze, is perfectly cool, and shuts them out.

DISPENSATORY

FOR THE

WEST INDIA SETTLEMENTS.

(A.) APERIENT POWDER.

Take of Jalap, fifteen grains ;
Calomel, five grains ;
Syrup of ginger, as much as form into
three pills, for a dose.

(B.) APERIENT AND SUDORIFIC POWDER.

Take of Antimonial or tonic powder, five grains ;
Calomel, the same.
Mix—and give for a dose.

(C.) CASTOR OIL EMULSION.

Take of Castor oil, four table-spoonfuls ;
The yolk of an egg ;
Muscovado sugar, two table-spoonfuls ;
Oil of anise-seed, ten drops ;

Rub them together, adding by little and little half a pint of water ; put it then into a bottle, with a glass of gin or brandy, and shake the bottle before use. The dose a wine-glassful every half hour, for three times ; and then every hour till it operates.

(D.) DETERGENT GARGLE.

Take of Borax, two drachms ;

Water, one pint ;

Dissolve, and add honey, one ounce. Mix for a gargle.

(E.) ANODYNE CLYSTER.

Take of Linseed tea, ten ounces ;

Olive oil, two ounces ;

Laudanum, forty drops ;

Mix for a clyster.

(F.) STRONG OPENING PILLS.

Take of Extract of colocynth, two scruples ;

Opium, eight grains ;

Make into nine pills ; three a dose every three hours ; or

Take of Aloes, half a scruple ;

Gamboge, $\frac{1}{4}$ scruple ;

Make into nine pills, with syrup of ginger, and give the same dose as above.

(G.) ARSENICAL SOLUTION.

Take of White arsenic in fine powder, and salts of tartar, each twenty-four grains ;

Distilled water, half a pint ;

Put them into a Florence flask, in a vessel filled with sand ; place this vessel over a fire, and make the liquor boil till the arsenic is dissolved ; then filter the liquor through blotting paper, and add to it an equal quantity of water. The dose is from fifteen to twenty drops twice or thrice a day.

The Remedies for Yaws are numerous, and may be here enumerated.

SULPHUR BOLUS.

Take of Flowers of sulphur, $1\frac{1}{2}$ drachms ;

Camphor, three grains ;

Opiate confection, sufficient for a bolus.

NEMBARD'S DROPS.

Take of Antimonial wine, three drachms ;

Laudanum, two drachms ;

Tincture of cantharides, one drachm ;

Camphor, half a drachm ;

Dissolve the camphor in the tincture of cantha-

rides and laudanum, or in a little brandy, and then add the antimonial wine. A tea-spoonful a dose every night in Sarsa decoction.

DR. WRIGHT'S TINCTURE.

Take of G. Guiac, ten drachms ;

Virginia snake-root, three drachms ;

Pimento, two drachms ;

Opium, one drachm ;

Strong rum, one quart ;

and to the strained tincture add oxymuriate of mercury nine grains, dissolved in one ounce of spirits. Dose, two table-spoonfuls in Sarsa decoction.

DIET DRINK.

Take of Lignum Vitæ chips, six pounds ;

Sarsaparilla, four pounds ;

Vervain, two pounds ;

Muscovado sugar, three pounds ;

Water, eight gallons ;

Mix—and set them to ferment ; and when sour, use it as common drink. The patient during its use, should employ the warm bath every two or three days, prepared by boiling lignum vitæ chips in the water. In coming out, he is to be rubbed with lignum vitæ, rum, and, occasionally, during the course a dose of calomel is to be given at night, and worked off in the morning.

FRENCH REMEDY.

Take of Polypody root, two pounds ;
Gum Guaiac, two ounces ;
Sassafras shavings, seven ounces ;
Sarsaparilla cut, $1\frac{1}{2}$ pound ;
Aniseed, half a pound ;
Sliced rhubarb, two drachms ;
China root cut, half a pound ;
Florentine orris root bruised, half a pound ;
Water, three gallons ;

Boil to $1\frac{1}{4}$; then strain, and add brown sugar, eight pounds ; then divide it into six bottles, and add to each bottle oxymuriate of mercury, ten grains. Give one table-spoonful the first evening, and two every evening after.

LOCAL APPLICATIONS.

Rust of iron and lime juice.

This is the preparation used for hastily drying yaws up, when a Negro is sent to market.

PHAGEDENIC WATER.

Take of Corrosive sublimate, one drachm ;
Lime-water, one quart ;
Dissolve, and keep for use.

RED PRECIPITATE OINTMENT.

Take of Red Precipitate one drachm. Let it be first rubbed on a marble slab, with a little olive oil, till reduced to a fine powder, then add of spermaceti ointment, one ounce.

SOLUTION OF BLUE VITRIOL.

Take of Blue Vitriol, two drachms ;
Water, four ounces ;
To be used as a wash.

PART III

AFRICAN DISEASES.

AFRICA is considered as the fruitful region of disease, and from this country is alleged to have proceeded most of the fatal maladies which ravage the West India possessions. It is, however, only the coast with which Europeans are acquainted. The British settlements on the Gold Coast in Guinea are near the line, of which Cape Coast Castle is the principal fortress.

The African company employ a number of officers and servants on the Gold Coast. As it becomes therefore of consequence to know the state of climate and weather in this quarter, the rainy season at the coast begins about the end of April, and ends about the middle of June. During this great rain, the weather is cold for that climate, and the air is moist, from the great exhalations that take place. Remittent and intermittent fevers make their dreadful havoc, as well as dysentery, which is too often fatal, and the crews of ships at anchor are as liable to these diseases as those on shore,

except they keep out at sea beyond the limits of the foggy atmosphere. During the interval from October to March, the air is extremely hot, but it is moderated by the land and sea breezes of the morning and evening. The seasons are here as in Europe, divided into summer and winter; the latter consisting of two rainy, two foggy, and two winter months. This division, however, cannot entirely be relied on, though heavy rains and boisterous winds are very prevalent on the land: the trade wind here blows always westerly, keeping a track with the shore, where it stretches eastward.

The inexhaustible fecundity of Africa holds out to Europeans strong excitements to enterprize and research, but these are attended with dangers to their health and constitutions greater than those in any other situations.

Though all along the coast a vertical sun renders the heat of the climate intense, yet the temperature from Cape Verd to Cape Palmas varies somewhat from the nature of the soil and the face of the country. In the period from November to March, the thermometer stands in the morning in the shade at 70, and rises at noon to 90; and nearly the same variation has been observed on the river Sierra Leone, and in some places of the Foulah country. From July to October, the mean temperature in the river Gambia has been in the shade in the morning at 90, and at noon 100 of Fahrenheit; and during the day the same month at Sierra

Leone, from 92 to 106 ; but a variety of local circumstances may give a greater or less degree of heat. Yet this standard may be considered as conveying a general idea of the temperature of this country. The Isle of Goree, and some other insular situations, are certainly more temperate than stations on the rivers which are more interior. But the banks of all the rivers being enclosed by impenetrable forests and marshes, it is seldom that their borders present a dry surface, except in some particular spots, which exhibit a beautiful and picturesque appearance.

From May to August hurricanes and tornados prevail on the windward coast ; and this phenomenon of tornados is to be met with from Cape Verd to Cape Palmas. The months from November to March, are remarkable for the prevalence of east and north-east winds. When these winds, which are called *Harmans*, set in, they are accompanied with a heavy atmosphere, and are of a dry and destructive nature. Every description of vegetation is blasted by their influence, and every animate and inanimate being feels their powerful effects. The skin is parched or dried, and every feature is shrivelled and contracted. The most compact cabinet work will give way. The seams of flooring open, and the planks even bend. In short, nothing escapes their dreadful power ; yet at this period the nights are cool and refreshing.

The months of July, August, September, and

October, are rainy from the equator to about the 20th degree of north latitude. Towards the equator, they begin earlier to make their progress to windward, but the difference throughout the whole north tropic, varies little more than 15 or 20 degrees. When the rains commence, the earth before parched up and consolidated into an impenetrable cake by the baneful influence of the sun, and a long period of drought, is immediately covered with all sorts of vermin and reptiles, creating a moving mass of putrefaction. To these the natives ascribe many of their diseases; but a further cause may be added, the great change from heat to cold, and the variations of the season. The powerful influence of the sun, which at this period rises almost westward, quickly dissipates the clouds that obscure the sky, and produce an almost insupportable effect, but new clouds soon condense and interrupt the solar rays, a mitigating heat follows, the pores are compressed, and perspiration ceases. Variations succeeding so rapidly, are attended with the most serious effects and the most fatal consequences; and lastly, the noxious exhalations arising from the inaccessible forests and marshy swamps that abound in Africa, and from various animal and vegetable products, the remains of the dry season, every where covering the soil, create the fruitful seeds of disease and putrid effluvia. Thus rains, or rather torrents of water, annually visit the tropics, and usually continue for four months in the year. During the

other, it rarely happens that a single drop falls, and though it has chanced that occasional showers may occur in the dry season, yet they have no perceptible influence on vegetation. Hence for such a length of time is an irriguous crust or stratum formed, which shuts up all exhalation, and the moment the rains cease, and the heat of the sun acts, evaporations arise, of the most noxious tendency, which powerfully affect the human frame, and beget diseases of the most dreadful violence. This is the period of the season of all others to be guarded against.

Such is the state of the African climate, as visited by Europeans. The chief settlement of the English on the Gold Coast, as already noticed, is Cape Coast, acquired from the Portuguese. The castle is formed by an angular point, washed on the south and east by the sea, upon which stands the fort, about nine miles from *Elmira*. The walls are high and thick, especially on the land side, built partly of stone, but chiefly of brick, which the English made at a small distance. To the height and strength of the walls the works owe their chief security, and the neighbouring Negroes dependent on the Company desire a protection from them against the incursions of the other tribes. The interior parade thirty feet round above the surface of the work forms a quadrangular space, cooled by the refreshing sea breeze, which lies open, and pleasantly situated, having Queen Anne's Point, and all the shipping in

the road of Anamaboa in view. The platform is defended by pieces of artillery, which command the road in its entrance. The perspective of Cape Coast is beautiful and regular. The Company's garrison occupies a space of no less than eight miles in circumference, surrounded with trees, and so prolific as to produce all the fruits and vegetables that abound in the warm climates.

DISEASES OF AFRICA.

The diseases of Africa are the same with those which affect the West Indies; but here the fevers and fluxes attack with more violence, and shew no gradation of symptoms. A particular precaution on the coast of Africa is with respect to the use of the water, which is highly injurious to Europeans; it should never be used without boiling; for, when otherwise, it is certainly productive of disease. The precautions also that have been given to new settlers in the West Indies, in page 183, apply more particular here. Besides fevers and fluxes dry belly-ache is a frequent disease of the African coast; and as a preventive, the use of aromatics in drink, and an attention to swathe the body in flannel, are essentially requisite.

The cutaneous diseases are also here numerous, but the same as occur in the West Indies, the treatment of which is already detailed, and requires no further elucidation here.

SYSTEM
OF
MEDICAL CONDUCT
FOR
EUROPEANS IN TROPICAL CLIMATES.

As this is the great point to be impressed on the European; the management of himself, so as to avoid disease, this subject, which has been already noticed under different heads in the separate divisions of the work, will here be considered in a full and systematic view, as a proper conclusion to the information contained in the preceding pages.

The first and leading maxims for the preservation of health in tropical climates, is an attention to temperance and coolness, as heat is, we have seen, the grand source of all the evils that occur to the European habit.

The chief circumstance that claims our notice on this head, is the form of the dress; and the two parts to be chiefly protected are the head and abdominal viscera. The natives do this by wearing the turban, which prevents the powerful action of the solar rays on the head; and by the summer-band, or girdle, round the middle, which both keeps a firm bandage on the belly, and prevents its being affected by sudden changes of temperature. The

use of cotton next the skin, is the most proper article of wear for the Europeans, as it is a slow conductor of heat, assists perspiration, and is not so heavy as flannel, which should always be worn in situations such as the coast of Ceylon, and other parts, where a great range of temperature takes place; nor should it be changed oftener than once a day, for frequent change increases the action of the perspiratory vessels already too powerful, and when wet, should rather be dried and worn, the great point being to *keep moderate* the cuticular discharge. With this attention to dress, the European should also in the East Indies avoid exposure to the sun, and being out from ten to four, if possible.

FOOD.

Next to dress, food is an important subject, in guarding against the attack of disease in tropical climates, and this is found in hectic cases, where the accession of fever always follows a full meal. That vegetable food is preferable, is allowed on all hands, especially during the first residence of an European, till his habit is lowered and seasoned to the climate, when he may indulge in greater freedom with animal food. Thus he should at first be a Hindoo, and in time a Mahomedan. The period of

meals is also worthy of notice. Breakfast with the natives is always an early meal, and early hours are here most healthful. It should also be a light one, the same as in Europe. The dinner should be at an early hour, and if deferred till late should be light. But indeed, the forenoon repast, which consists of light curries, with some wine, makes a late dinner unnecessary, and the evening meal should rather consist of tea and coffee than heavy food. By this plan a comfortable night will be produced, and no fever or restlessness ensue.

Supper is seldom a meal in India, but on particular occasions.

Too free an indulgence in fruit, is also a caution to be observed, especially if the bowels are irritable, and particular kinds of fruit also have peculiar effects on certain constitutions. The spices and condiments of the country should only be indulged in after the European constitution is seasoned to the climate.

DRINK.

If temperance is so necessary in food, it is still more so in drink ; and from the ennui and languor which take place in tropical climates, there is a strong temptation to sacrifice to the jolly god. The effects of this, however, are always injurious, and

water will be found the best beverage, and most conducive to health. The indulgence beyond it should not be great—and vinous and spirituous liquors certainly aggravate the predisposition to disease.

Acids have been reckoned injurious in hot climates. Where the person has irritable bowels their use may be hurtful, but in other respects nature points them out as an article intended for a beneficial purpose in allaying thirst and heat, and the feverish indisposition of the climate.

Whatever is our beverage in a hot climate, the use of cold liquids, when overheated, should always be avoided, as apt to induce inflammation, of which fatal instances occur.

EXERCISE.

In tropical climates all exercise should be of the passive kind, and what in a northern latitude forms the chief luxury and amusement of the inhabitants, is here, when indulged in by Europeans, of the most pernicious consequence. This applies particularly to dancing, a favourite amusement in the West Indies; though in the East it is not so much in fashion, but by those hired for the purpose, to entertain a company. Gestation is indeed the exercise

best suited to a tropical climate, and the languid circulation of the blood in the Europeans here is strongly evinced by the inclination which every one feels for raising the lower extremities on a parallel with the body when at rest. Hence the motion of the palanquin is well adapted for this effect. On the same principle proceeds the pleasure of shampooing, when the gentle pressure of friction with a soft hand, after fatigue, excites a gentle cuticular discharge. In chronic derangements of the viscera it is certainly a salutary process, and ought to be conducted in the evenings and mornings within doors, when the state of the weather does not permit other gestations.

Smoking is, in tropical climates, a general custom, and, if not carried too far, it may in damp marshy situations be of service.

BATHING.

From the moment the tropics are past, the cold bath should be one of the means of seasoning our constitutions for the changes that are to ensue, in consequence of tropical diseases, being chiefly the effect of atmospherical vicissitudes, for which we will by this practice be prepared, and in many cases able to resist. In the country it should be used the first thing in the morning, and before dinner. It

will thus renovate, after a sleepless night, and give tone to the stomach, and increase the appetite for dinner. It should, however, never be used while the process of digestion is going on, neither should it be employed by those in whom visceral obstructions exist. In these cases the tepid bath is preferable, and also for the seasoned European, whose constitution is debilitated by the climate.

SLEEP.

This is a luxury seldom enjoyed uninterrupted in the tropics. It is prevented both by the excessive heat, and the herd of insects which annoy. The only method of enjoying it with comfort is by sleeping in the open air. Against which practice no objection can be offered, if you once habituate yourself to the custom. Nothing is so exhausting in a warm climate as the want of sleep; and the dissipation of northern climates in this respect would be certain destruction. The hour of retirement to repose should not be protracted beyond ten o'clock.

RETURN OF EUROPEAN ASIATICS TO BRITAIN, WITH THEIR CONSEQUENT CHANGES OF CONSTITUTION, AND TREATMENT.

THE wish of most Europeans who have emigrated from their own country, is to end their days at home; and after amassing the means of enjoyment, they are too often deprived of the satisfaction and comfort they expected to find, by their native climate no longer agreeing with them, as in their early days, and their return occasioning them only to be the victims of combined indisposition and disease. To render the situation of such fortunate individuals more comfortable on their return, and to enable them to enjoy the well-earned fruits of their labour in the evening of their days, we shall consider the changes of habit which necessarily take place by their removal to a cold climate, and the management best adapted to counteract the consequences which these changes produce.

In a warm climate we have seen the discharge of the skin as the principal means nature employs to regulate the heat of the system, by producing a conducting surface and thereby lessening the excess of heat. In a cold climate this is unnecessary, and as no excess of heat renders such an apparatus essential to the animal existence, its discharge does not exceed the natural proportion it ought to

possess. The excessive discharge which distinguishes this part of the body in a warm climate, naturally alters its texture, expands its vessels, and renders them constantly bathed in humidity. With this the natural sensibility of its structure is increased, it feels alive to every impression, and subjects its possessor to shiver at every breeze. Between the skin and kidneys it is well known there exists a particular sympathy, and the discharge of the one has a certain connection in supplying the place of the other. This excess of determination to the skin in warm climates suspends much the action of the kidneys; and in the same situation they accordingly acquire a torpor and inactivity entirely the reverse of what takes place when living under the influence of a northern atmosphere.

But in addition to this state of the skin and kidneys, a change no less important to be noticed is the different economy of the liver in a warm and cold climate. In the former, we have seen its functions greatly increased, and proving, if not the actual source, at least a great aggravation of every cause of disease. In consequence of this increased activity of the organ a habit is induced to which its organization becomes adapted, of forming a more copious secretion of bile than is necessary. In a cold climate again, so different is this state, that from the sparing secretions of the organs, and the want of a sufficient quantity of bile to quicken the peristaltic

motion of the intestines, it requires often to be artificially supplied. Viewing these opposite conditions of constitution then, as each more or less adapted for their different situations, let us trace next how the Asiatic constitution of the European is to be returned to its original state, and made fit to be again the inhabitant of a northern atmosphere, just as it was previous to emigration. To do this, it is clear the progressive alterations must be gradually introduced, and begun from the moment he leaves the Asiatic shore. The first leading step is to preserve the temperature of surface, and not allow that discharge by the skin to be quickly suspended or interrupted, which has been so long continued, and become now from habit so necessary to the well-being of the system. Additional coverings will be therefore requisite in the progress of the voyage, and the loose thin dress of the warm region exchanged for one that will accumulate heat, and not form a conducting surface for its passing off. Next the skin, cotton will form the best and most agreeable wear, and one to which custom has given a predilection. Over it flannel should be worn, and even, if necessary, this might be rendered more effectual and impervious to the escape of heat, by a thin oil-cloth dress of silk, which would entirely resist the influence of the atmosphere. This oil-skin dress should extend to the extremities, and thus inclose the whole body as in one uniform case. The

rest of the dress should be woollen stuffs, such as are worn in northern regions, and by this change the body will be prepared to encounter their severity. Here several changes, however, should be progressively made, over the cotton, the additional flannel should be applied, after passing the equator; and when the vessel reaches Madeira, the additional oil-skin dress should be then resorted to. But though the body is thus so far protected, an unnecessary and incautious exposure of the person to the rigour of the weather after landing, should for some time be also avoided, and the person should consider himself as actually in the state of an invalid just recovering from a severe illness, who requires every caution from the dread of a relapse. He should therefore at first only go abroad in the warmest part of the day, avoid exposure to any cold blast, and never encounter the congenial breath of the evening, and its cold dews. If his apartments are kept very warm, he should even season himself before going abroad by a short stay in a cooler part of the house; for it is sudden succession of heat and cold that renders it so injurious. But whatever additional heat may be thus communicated to the body as a succedaneum for the change of climate, it is clear that the discharge by the surface will be considerably lessened. The latter will, in consequence, gradually get dry and parched, and the constitution will then have recourse to other outlets to carry off that excrementitious matter which has hitherto past

by the skin. The outlet preferred for this purpose is the kidneys, an organ inactive in a warm climate compared with the exercise of its functions in a cold one. The quantity of urine comes accordingly to be considerably increased; and this increase, from the long inactive state of the part, renders the person particularly subject to calculous affections or gravel, which torment him for life. This is also a proof that the discharge of the skin in a warm climate is more excrementitious than in a cold one; and that its being thrown on another organ exposes the latter from this very circumstance to disease. Hence persons returning to this country are much troubled with pains in the back and loins from this cause; on which account, no small attention to regimen will be necessary, and in order at the same time that the skin may be enabled as much as possible to ease the kidneys, the person should accustom himself, at least twice or thrice a week, to the use of the warm bath, at a temperature not less than 96 degrees. By this practice, the original state of the surface will be kept up even in this climate to a certain extent, and time accordingly given gradually to accommodate itself to that diminution of its functions which must in the end necessarily ensue. The encouragement of this practice we consider of the greatest importance to the health of every one who returns to his native country from a warm climate; and it is certainly

one of the best precautionary measures that can be adopted to preserve the individual free from disease. The last and equally important consideration is what respects the state of the bowels. This discharge in a warm climate is always irregular, depending on the state of the liver, the secretion of which has a powerful influence upon it. We have accordingly seen that so much are the Europeans residing there aware of this fact, taken by them regularly without any medical advice, to prevent its accumulation, and its producing by its irritation that powerful action on the intestines which throws them into a state of inordinate contraction and disease. This practice, which time has sanctioned, and constitutional changes rendered essential to existence, it would be improper for the European on his return home to lay aside. He should accordingly be in the habit of keeping up a regular discharge from the bowels, and paying the strictest attention that it be not suspended; for so soon as this takes place, the secretion of the liver will be accumulated, and the return of former hepatic affections endangered. There is a chance also of its taking a different form in this climate, and biliary concretions, a common occurrence, forming what will produce a more permanent and serious irritation than that arising from its mere accumulation. In the choice of purgative remedies of this class there is a sufficient variety, and the following form will perhaps be found to answer

with most persons in a superior degree to any other.

Take of Compd. colocynth pill, two drachms ;

Prepared calomel, ten grains ;

Venice turpentine, half a drachm ;

Mix well together, and divide into thirty-six pills, of which three may be taken twice a week.

Having thus considered the leading points which claim the regard of Asiatic Europeans on their return to their country, in respect to bringing about cautiously and progressively the constitutional changes which nature has provided should ensue, it would be improper to omit making some observations also on the regulation of their diet, as having a particular and strong influence on the same important object.

We have seen that in tropical climates the use of animal food and stimulant drinks requires much limitation, and that those who preserve this European practice never fall victims to this favourite indulgence. Accustomed therefore much to a restricted vegetable diet abroad, a change in this respect becomes now necessary, and the excessive stimulus of heat being withdrawn, which supported the energy of the system, and rendered but a small supply of nourishment of the mildest nature adequate to its

support, a very different plan should now be adopted; but in introducing it, the change must be made in a gradual and prudent manner. As the European residence, instead of giving that animation and life conspicuous in a warm climate, tends on the contrary to lessen the vital principle by the diminished degree of temperature of the body, so the absence of this great stimulus must be supplied, so far as necessary by internal means, especially the aid of diet, and its auxiliary attendants. Animal food furnishes this essential stimulus in the most permanent manner, and the use of it should be begun in the voyage homewards in a greater quantity than formerly, and gradually increased as the stomach becomes accustomed to digest it with ease. It should at first be taken in the most soluble form, that the stomach may have less to do in converting it into nourishment. This additional stimulus of diet is not only necessary on that account, but also for another reason, that in moving from a warm to a cold climate, an excess, or at least a greater degree of it is required in order to fill up the body as it were, or to supply it with that quantity of food which is wanting, and not necessary under a vertical sun, but in a cold climate is essential to enable all animals to resist the effects of a northern atmosphere. Hence the accumulation of food in animals in proportion to the diminished temperature under which they live. The great fault then of

those who return from tropical regions after a long residence, is the obstinate attachment they shew to those habits to which they have been accustomed so long in this foreign, or properly to them, exotic situation. Hence their predilection for vegetable food, their strong use of pungent aromatics in diet; their inadequate dress to the rigour of the climate, and their indulgence in that indolent and sedentary mode of life which is only suitable for a warm climate. We have already stated the advantage and propriety of a proper use of animal food, and a diminution of the vegetable regimen so essential to keep the system in a lowered state, in an increased or light temperature, and in directing the use of this food we have preferred it prepared in a soluble state. The object in this, as in every other part of the regimen, is, that a determination to the surface may be promoted both by dress and diet, for the purpose of relaxing the kidneys, and to keep up as much as possible the principal excrementitious outlet to which the constitution has been so long accustomed, for the substitution of the others, though useful, does not altogether answer the end. Thus, as the residence in a cold climate as a natural consequence is to check and interrupt the cutaneous discharge, so the great secret for preserving the European Asiatic in health, is to keep up the functions of this part, and to prevent that dry parched feel of the skin, which is ever the attendant

of bad health. The immoderate use of pungent aromatics in diet in the form of curry, is a favourite indulgence with the Asiatic, and this practice he is fond of continuing when he returns, hence the high seasoning and pungent sauce he uses to every dish. Where vegetable diet is chiefly used, this addition to it seems in a certain degree necessary to keep up the tone of the stomach and bowels; for such aromatics extend their powers little beyond what are termed in medical language the *primæ viæ*. But when these organs are fortified by a proper and plentiful use of animal food, such adventitious aid is no longer required, and by their local irritation in the bowels in particular, it is generally attended with serious consequences. Thus piles are a common affection from their immediate use, and they will naturally from sympathy irritate also the urinary organs, which is an effect much to be deprecated, where these parts we have seen, from their long inactive state possess a predisposition to disease. A moderate use of wine is certainly a less objectionable stimulus, but in it and the use of every strong liquor, much attention must be paid to the previous habits and former life of the individual. The abstemiousness of a warm climate, in this respect, has subjected him for a number of years, even the best part of his life, to temperance on this subject as an indispensable and necessary virtue. To encroach, therefore, in the opposite extreme, would be

highly injurious, and though the system requires a stimulus, that stimulus must be regulated by regard to existing circumstances. Instead then of much wine, the excitement and energy of the system is to be kept up by a regular and constant supply of heat to the surface, through means of dress, and the action of its vessels may be farther promoted by the regular use of the flesh-brush twice a day, employing that particular kind which excites the electrical powers of the skin. This will be even preferable to shampooing, a practice so highly approved, and so much employed in India. Next to the consideration of diet for the preservation of health, exercise is an important point to be attended to. The passive state, so favourable to health in the tropical regions, must here give place to active exertion; and the indolence and ennui so peculiarly characteristic of Eastern manners, must be no longer indulged in. But this activity and exertion must still be proportioned to habit, and the state of body. Exercise within doors will be best suited and least fatiguing to such individuals, and when abroad, moderate walking, or riding, will be preferable to any other. In regard to sleep, the early hours of India will be equally salutary here. The nocturnal banquet, and the midnight hour, are to be shunned as the enemies of repose.

Such are the precautions we would strongly recommend to be adopted by the European who re-

turns with a wish to enjoy health, the first of all blessings, in his native land; and it is by neglect of such precautions, or ignorance of the proper regulations they ought to adopt, more than from a fault of constitution, that their term of enjoyment is cut short in revisiting their native land.

APPENDIX.

SINCE I commenced the present work, an important change has taken place in the political horizon of Europe—France no longer, with the nations at her feet, has been obliged to withdraw within her ancient frontiers, and the freedom of the Continent once more in the act of being restored, has called in a strong manner for the exertions of Britain in aid of this great cause. With that promptitude which has ever marked the British Government in giving assistance to the deserving and oppressed, her subjects are now called to every part of Europe, both from duty and inclination. In this variety of situations then to which they are driven, they cannot fail to be exposed to different causes of disease peculiar to their situations, and from which they are exempted in their own country. From an

anxious zeal that the present work should be of still greater utility than originally proposed, and to meet the important crisis of the moment, some observations on the climate and peculiar diseases of different parts of Europe, with the best means of preserving health, adapted to each, will form an useful and interesting conclusion ; finishing the whole with forms of Medicine, and a Medicine Chest suited to this highly useful object, under the title of **THE CONTINENTAL MEDICINE CHEST FOR THE BRITISH OFFICER AND TRAVELLER.**

HOLLAND.

This subject we shall commence with a view of the climate and diseases of Holland. Of all the countries in Europe Holland may be considered as the most unhealthy. Originally acquired from the ravages of the sea, the encroachments of which are only prevented by much labour and industry, it presents a region which owes every comfort to the art of man alone. The coldness and moisture of winter are here proverbial.

The chief disease in Holland, and which claims the particular caution of the traveller, is the intermittent, and the consequences to which it leads, in the production of a diseased state of the liver. The effects of this were strongly instanced in the loss of

the British army by the attack of the Walcheren fever, so termed from the situation where it occurred. Out of 45,000 men, not more than a third returned to their native shores, and many of these afterwards fell a prey to the consequences of the disease brought with them. In addition to the cause of marsh miasma, the water of the country, from its noxious impregnation, acted here as an additional and aggravating circumstance; and it was remarked as a strong proof of this, that those men who took the precaution to boil it, or otherwise render this impregnation harmless, were less liable to the attack of the disease than others.

The period at which this disease is most apt to occur, is the spring and autumn months, and at those times a stranger ought to use every precaution to avoid an attack.

As cold and moisture are the great predisposing causes, these ought to be counteracted by a proper attention to warm clothing, and what we have recommended to the European on his return to Europe, (p. 211.) after a long residence in a tropical climate, will apply. The climate of Holland to an inhabitant of Britain, in point of insalubrity, if not in temperature, may be compared as constituting a difference equal to that of the British climate to the returning Asiatic, and the rules laid down for the conduct of the one may be equally followed here in what respects the clothing and diet. As a matter of precaution, the use of the bark or rhatany

root, should in all cases be resorted to, and a table-spoonful of the compound tincture of either, or a tea-spoonful of the powder, taken every morning as the first thing before going abroad. The state of the bowels and biliary secretion will also require a particular attention; and the use of the pills (p. 215.) taken as often as necessary, at least twice a week, will prevent any accumulation that may act in aiding the causes of disease; the condition of the skin will be no less essential. Friction and stimulants will be highly beneficial; and if these different means are joined with a generous diet, the attack of an intermittent will rarely occur, even in this insalubrious situation. Every attack of this disease is always preceded by some error on the part of the person of which he is afterwards sensible, and from his own conviction shews the propriety of precautionary measures. Cold and moisture by producing fever, have the same effects on the hepatic system that heat and moisture have in the tropical climates.

Till the frost commences, the air thick and foggy, is the very bane of health and enjoyment. As soon as the east wind sets in steady, it is accompanied with frost, which continues generally permanent for four months, interrupting the pursuits of commerce and trade, but expelling the noxious effluvia with which the moist ungenial atmosphere is loaded, and conferring health, animation, and vigour. The winter is here on the whole much

colder from the peculiar moist situation than in other places under the same parallel, but the summer also in a certain degree hotter. From the extreme humidity of the climate, metals rust, and wood decays sooner than in any other country, and so sensible are the inhabitants of this, that to prevent these effects, they are constantly rubbing and scouring, and are proverbially distinguished for their cleanliness. Spring and autumn are here the particular unhealthy periods of the season; and intermittents may be considered as the grand epidemic of the country. But the degree of unhealthiness is not equal in every part. The neighbourhood of the sea, salt marshes, and bogs, are the most distinguished by the prevalence of disease; and a strong instance of this effect was offered in the mortality of the British army in the island of Walcheren. This army, which left its native shore in health and vigour, full of spirit and animation, in the course of a few months was reduced from 45,000, its original number, to less than two-thirds, solely by the ravages of disease, favoured by two powerful causes, the state of inaction where there was no enemy to meet, and the use of impure water, containing the most noxious principles. The intermittent and remittent species of fevers, were the forms that proved fatal on this occasion, and so powerful were their morbid effects on the victims of their attack, that few even who escaped the mortality of the fever, ever regained the possession of

their firm and wonted health. The consequence of this fever, as of marsh miasmata, in every situation, was to lay the foundation of hepatic complaints, and it would appear that it is the peculiar characteristic of *moisture*, or the principle it contains, to produce uniformly an affection of the liver, whether combined with heat or cold. In the former case, as we have seen in the tropical climates, there is a tendency in the organ to suppuration or abscess. In the latter it is more chronic, and tends to assume in the end the character of schirrus. In dry summers, the intermittents and remittents give place to continued fevers of the malignant type.

The situation of the country also by limiting the exercise of the inhabitants, proves a source of disease. Their exercise is mostly of the passive kind, and instead of walking or riding, as in other countries, their conveyance from one place to another is all by water, or canals, where little motion takes place. Hence their extreme corpulence; and longevity is in Holland a rare occurrence. Besides intermittents, scurvy and gout are particularly prevalent; the former among the lower, the latter among the higher ranks of the inhabitants.

PREVENTION OF DISEASE.

As cold and moisture are the great causes of disease in Holland, so these should be guarded against

by every one who is to make a residence in this country. In the conveyance to it he should select his dress; for this purpose, flannel should be preferred next the skin, and the same attention paid to exclude the effects of climate, as recommended in the voyage homeward from tropical climates, in p. 211. The diet should be of a warm stimulating nature, consisting of one half of animal food in a solid form, and for drink, a certain portion of wine or spirits may be taken daily with the more diluent beverage. If an excess of aromatics in diet is any where excusable it is here, as it will assist in keeping up the tone and vigour of the stomach, a weakened state of which is the prelude to many diseases. One of the chief articles to be guarded against is the use of the water, without being corrected either by boiling, or an addition to prevent its irritation of the bowels. Those who used this precaution in the British army were found to escape disease much better than others. The morning is generally reckoned the time most dangerous for the action of marsh effluvia, and other causes of acute disease. Where the avocations of the individual subject him to go early abroad, the stomach should be previously fortified by a dose of Huxham's tincture of bark, or the aromatic tincture of rhatany, which, when succeeded by a regular and warm breakfast, is the best precautionary measure which can be adopted. The exercise should be suited to the diet; it should be active and vigorous, without fa-

tiguing, or being carried so far as to induce debility. Over-exertion is always to be avoided.

Should the attack of an intermittent or other fever unfortunately occur, then the treatment recommended under that head in the preceding part of the work will apply.

NETHERLANDS.

The climate of this country is better than Holland, except on the coast of Flanders and Brabant, which nearly resembles it. The weather, whatever it is, is more constant than in an insular situation. The winters are here severe, but the cold is settled and uniform. In other respects, the observations that apply to Holland are equally proper and necessary in this country.

GERMANY

Is so extended in its limits as to possess in different parts a considerable variety of climate. In the north, the weather is cold, and the soil of the country barren. The midland districts are the most fruitful; and here also the climate and weather are more steady, as being equally remote from the sea and the high mountains of the Alps. This country

is liable to a number of epidemics. In winter, inflammatory diseases are every where prevalent, and in the spring and autumn the diseases differ according to the local circumstances which give them more or less a putrid tendency. The same causes are to be provided against here as in the countries already enumerated. Cold and moisture are the great source of disease, and the marsh miasmata are not so prevalent here as in Holland, still they give rise to diseases of a continued type, and other maladies which are equally dangerous.

BOHEMIA AND HUNGARY, POLAND, &c.

The adjoining countries of Bohemia and Hungary are more unhealthy than Germany, from the woods and forests with which they abound. The same may be said of Transylvania, Croatia, Slavonia, &c. which differ little from each other, and are subject to the same weather and diseases that are common in Germany, and all extended countries under the same temperature. Next to these countries comes Poland, which is equally extensive as Germany, and from this cause equally varies in its climate and diseases. One malady, however, is peculiar to this country, which is known under the name of the Plica Polonica.

Poland and Lithuania are distinguished by this peculiar disease, which consists in a morbid enlargement of the vessels of the hair, by which it becomes plaited and entangled. This disease is of a highly infectious nature within the district of its attack. It is preceded by various constitutional symptoms, and particularly in the head, as pains of the neck, back, shoulders, loins, &c. At other times it is ushered in by strong fever, with delirium, palpitations, and a variety of alarming symptoms. At times swellings and ulcerations of the head, similar to venereal symptoms appear, attended with dimness of sight, and even falling off of the nails. But all these alarming symptoms in a night disappear when the disease makes its appearance. In females it is preceded by an immoderate flow of the menses, and a shooting pain under the sternum. Sometimes it is partial in its appearance, and only a few hairs in the back of the head acquire this matted state. At others it is more general, and even the hairs in some parts of the body acquire the same disposition.

The cause of this disease is not ascertained. It has been attributed to the use of salt or bituminous water—to neglect in combing, and to improper diet; but all these causes operate elsewhere, without producing the same disease. It is evidently of a highly critical nature, and seems to be a discharge which no other can properly supply. When checked, the disease is apt to return. Fatal hæmorrhage has

been said to have occurred from it at times, in consequence of excision of the hair, though this is not observed by some writers. The contagion of this disease is produced only by immediate contact, as wearing the same clothes, and using the same linen of those infected; and strangers do not partake of the disposition which gives origin to the disease, even though they have lived long in the same country. The French army, however, are said to have suffered from it.

The cure then, of this malady, from its critical nature, is to give an outlet to the matter by the bulk of the hair, which nature so strongly points out. Warm fomentations to the head are accordingly an useful remedy, and the decoction of lycopodium in water, or beer, is said to be peculiarly efficacious. The warmer diaphoretics, with camphor, assisted by blisters to the neck, are useful, but all strong evacuations are attended with injurious consequences. Where a spontaneous separation of the locks takes place, they may be removed, but cutting off the hair prematurely is to be avoided.

RUSSIA.

This country is peculiar in its climate, manners, and inhabitants. From its extent the climate varies

much, but in its most temperate districts the degree of cold far exceeds that of Europe; and is borne in winter with difficulty by the native, much less by the stranger and traveller. The northern part of this extensive empire is covered with snow for nine months in the year, and is scarcely habitable. The middle of the country is more temperate, and some of the southern provinces are even warm. It is the middle districts of Russia that supply provision for the north, and this is facilitated by navigable rivers, though even these provinces are covered with snow for six months in the year. The winter when it begins here continues, and suffers no interruption till summer sets in, which immediately springs up excessively warm, and brings forward vegetation with amazing rapidity. The most prevalent wind in winter is the north-east, which passes over vast tracts of snow and ice; and when the snows fall in the south, the south winds are as cold in their passage as the north.

The principal acute diseases of this country are continued fevers of the putrid kind, and the plague. Scurvy is here a rare disease, from the sour beverage to which the inhabitants are accustomed. Cutaneous affections are frequent, from the filthy and squalid mode of living in which they indulge. Spirits and tobacco are here the chief luxuries, and from the rigour of the climate they do less harm than in other countries, as the system requires a more than common stimulus to animate and keep

the circulation in a vigorous state. In this climate then, such indulgence becomes in a certain degree a virtue, while in another, carried to the same length, it constitutes a vice. In visiting this country a traveller must endeavour to fortify himself by imitating as much as possible the manners of the inhabitants in what respects dress, diet, and such other indulgence as the state of the weather requires. Necessity is here, as elsewhere, the mother of invention, and the customs set by the natives have generally experience and observation for their guide. The best medicines here will be those of the tonic and stimulant kind.

SWEDEN AND SHORES OF THE BALTIC.

Sweden much resembles the northern provinces of Russia. Here the winter reigns for nearly nine months in the year, attended with extreme cold. This country, however, is remarkable for the longevity of its inhabitants, and more instances of those who have exceeded a hundred occurs in Sweden than in any other country. The diseases are much the same with those of all extreme cold climates. Scrofula is often here a most formidable disease; and in consequence of the extreme rigour of the atmosphere, the vitality of parts exposed to its action is often destroyed, such as the nose, lips, &c. producing hideous deformity. Yet even with the inadequate nourishment which this country apparently affords, the race of men are vigor-

ous; and the excessive heat of the short summer produces a rapidity of vegetation, which makes up for the hardness in the other parts of the year.



SPAIN

Is a country of great extent; the temperature of which varies much in different parts, being intersected with high mountains and deep vallies, which influence the state of the air, but still it is in every part temperate and warm, though more so in the southern than northern provinces. The coldest period of the year is about the equinoxes, when the rains fall; at other times, the air is dry as well as mild; and in the southern provinces excessive heats prevail during the months of June, July, and August. In the northern parts, towards the coast, and also on the mountains, the winter is cold, and often severe.

Spain may be considered as an intermediate climate between the northern and tropical regions. It requires in winter the same attention to warmth and diet, as recommended in Holland and other countries; and in summer the regulations of the warm climates will apply with equal propriety. The chief cautions that apply to the residence of a stranger in this country, is to avoid the indulgence in fruit and wine. The temptations which these offer to the native of a more northern region cannot be withstood, the consequence of which is, the production of fevers, bowel complaints, and all

the effects of irregularities. This particularly occurs with the British troops sent to this country, who fall oftener sacrifices to their own excesses and the fatigues of the service in that climate than to the perils of action. Continued fevers of a pestilential nature, dysentery, and bilious diseases, are the most fatal maladies in this climate; and in providing against them, I can only refer to the directions laid down in the conduct to be observed in warm climates, and the treatment of these diseases.

PORTUGAL.

The climate of Portugal very much resembles that of Spain, but the atmosphere is not so pure, nor the heat so great, as in the southern parts of Spain. Being situated chiefly on the coast, it is refreshed by breezes from the sea. It is however reckoned a favourable situation for pulmonary complaints, and Lisbon is accordingly in winter a common retreat for invalids from Britain. But it is a situation by no means at this season of the year adapted for such diseases, as the rainy season setting in excludes them from exercise in the open air, so necessary for this malady. The diseases of this country are the same with those of Spain, and the same precautions for the preservation of health are necessary to be attended to here, as they are in the former country.

ITALY.

Italy, the delight of travellers, and the resort of taste and genius, is like every irregular country, considerably varied in its climate. Part of it towards the Alps is cold, and the winters often severe. The Apennines running through it, from their height render the neighbouring places cool, and more than temperate. Its southern provinces are very hot. The Campana of Rome is very unhealthy, from the stagnant waters and morasses which it contains. Naples is a more salubrious situation, from being on the coast, and enjoying the refreshing breezes of the sea. The diseases of Italy differ in no respect from those of Spain and Portugal. A pure inflammatory complaint for two-thirds of the year is unknown. The epidemics are those of the putrescent kind, consisting in a weakened action of the system, and tendency of the fluids to a septic state. The precautions to be adopted are those that resist the excessive stimulus of heat, and the vicissitudes which may take place from changes of weather. The former part of the work sufficiently details the regulations on this head, and no repetition is necessary.

Having thus taken a cursory view of the principal countries of Europe, where British enterprize, valour, or industry, may lead her inhabitants, the

whole system of disease may be reduced to a few leading points. The first source of disease in every situation is moisture, either accompanied with cold or heat. In the former case, inflammatory complaints are the consequence of its action; in the latter, a state of debility, with a tendency to a septic state of the fluids. To guard against the former, heat and invigorating diet are necessary; to avoid the latter, the heat is to be repressed, and the septic state of the fluids corrected. The attack of disease is always attended with or preceded by a diminished discharge of the different excretions, particularly the skin. Besides this an attention to the constitution, is a leading means of preservation, and one which will do much in the first instance to counteract disease even when it has taken place.

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